

# ServSensor V4E Lite

# Use this intelligent environmental monitoring device to identify problems before they disrupt your equipment.

Features an embedded Web server and Linux operating system.



Customer Support Information Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500) • FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746 • Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence, PA 15055-1018 • Web site: www.blackbox.com • E-mail: info@blackbox.com

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# Federal Communications Commission and Industry Canada Radio Frequency Interference Statements

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

#### Instrucciones de Seguridad

#### (Normas Oficiales Mexicanas Electrical Safety Statement)

- 1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
- 2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
- 3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
- 4. Todas las instrucciones de operación y uso deben ser seguidas.
- 5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
- 6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
- 7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
- 8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
- 9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
- 10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
- 11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
- 12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.
- 13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
- 14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
- 15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.
- 16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
- 17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.
- 18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objectos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

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#### 1. Specifications

- Audio Sampling rate: 8 kHz
- **Certifications** AdRem NetCrunch, Quest Software–Big Brother<sup>®</sup>, Castle Rock, HP<sup>®</sup> OpenView<sup>®</sup>, IBM<sup>®</sup> Tivoli<sup>®</sup>, LoriotPro, Logalot, MRTG<sup>®</sup>, SiteScope<sup>®</sup>, Somix<sup>®</sup>—WebNM<sup>®</sup> and Denika<sup>®</sup>, WhatsUp<sup>®</sup> Gold, Computer Associates Unicenter<sup>®</sup> TNG

Components — Manufactured using highly integrated, low-power surface-mount technology to ensure long-term reliability

**Configuration** — Via Web browser (HTTP/HTTPS)

- **Expandable Modules** EME1X8: 8-port intelligent sensors module; EME1DC16: 16-port dry-contacts modules
- Mean Time Between Failures (MTBF) 400,000 hours
- Memory 128 MB SDRAM, 128 MB NVRAM
- Network Interface (1) 10/100BASE-T Ethernet RJ-45
- Operating System Embedded Linux
- Processor iMX25 CPU
- Protocols Supported (Client) DHCP, DNS, SMTP, (5) NTP, SNMP
- Connectors Inputs: (8) RJ-45 for connecting sensors; (2) RJ-45 expansion ports; (1) USB Version 1.1 Type A; (1) 2.5" jack for analog audio; (1) RS-485 2-pin terminal box (used for Modbus<sup>®</sup>); Output: (1) 2.5" jack for analog audio; (1) 2.5" jack for microphone
- Temperature Tolerance Operating: 32 to 131° F (0 to +55° C)
- Humidity 20 to 80%, noncondensing
- Altitude 0 to 9842 ft. (0 to 300 m)
- Indicators (19) LEDs: (1) Power, (1) Link, (1) Activity, (8) Status, (8) On-line
- Power Input: 100–240 VAC, 47-63 Hz external power supply; Output: 7.0–9 VDC, 3 amps; Consumption: 5.025 watts, 0.670 amps
- Size 1.8"H x 8.5"W x 5.4"D (4.6 x 21.6 x 13.7 cm)
- Weight 1.7 lb. (0.8 kg)

## 2. Overview

#### 2.1 Introduction

Used for environmental monitoring, the ServSensor V4E Lite identifies problems before they lead to business disruptions. This high-speed, accurate, intelligent monitoring device features a completely embedded host and Linux<sup>®</sup> operating system.

## 2.2 What's Included

Your package should contain the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500.

- (1) ServSensor V4E Lite unit
- (1) 5-ft. crossover cable
- (1) 5-ft. straight-pinned cable
- (2) rackmounting brackets
- (1) power adapter
- (1) power cord
- (1) temperature/humidity sensor (EME1TH2-005) with RJ-45 to RJ-45 cable
- (4) terminal blocks (installed)
- (1) CD-ROM containing this user's manual and Help files

#### 2.3 Hardware Description

Figure 2-1 illustrates the ServSensor's front panel. Table 2-1 describes its components.

#### 2.3.1 Front Panel

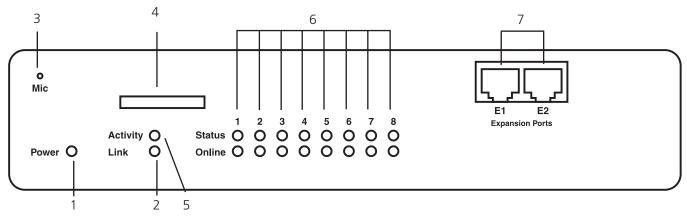


Figure 2-1. Front panel.

Table 2-1. Front-panel components.

Number	Component	Description
1	Power LED	When the unit is powered on, the power LED will be lit continuously. If the power LED is flashing, there is a problem with the CPU. Contact Technical Support at 724-746-5500 or info@blackbox.com.
2	Link LED	The Link LED indicates network connectivity. It lights when a network is connected to the ServSensor V4E Lite.
3	Mic	The mic is a small hole for access to the internal microphone. Use it as a sound sensor (or use an external mic).
4	SD card slot	SD card (not included) installs here.
5	Activity LED	The Activity LED flashes when network traffic is sent to or received by the ServSensor V4E Lite.
6	Status/Online LEDs 1–8	The Status/Online LEDs are numbered 1–8. They indicate the connectivity status of the sensors connected to each port. You can also use these LEDs to indicate system status during various operations.
		Additionally, the LEDs can indicate the progress of an upgrade. The red LEDs move from left to right to indicate activity, and all the green LEDs indicate overall progress of the upgrade. When all the red lights are off and the green are on, the upgrade/recovery process is complete.
		These lights also indicate if the unit is operating in safe mode. This is when the unit loads the operating system (OS) with a minimal set of drivers. If your device enters safe mode after rebooting, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.
		The unit may enter recovery mode if a firmware upgrade is incomplete. In this case, the unit displays a continuously lit row of red LEDs. If this happens, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Table 2-1 (Continued) . Front panel components.

Number	Component	Description
7	Expansion ports E1–E2	Use the two expansion ports numbered E1–E2 to connect the 8-port expansion module (EME1X8) and/or the 16 dry-contact expansion module (EME1DC16).

#### 2.3.2 Back Panel

Figure 2-2 shows the ServSensor's back panel. Table 2-2 describes its components.

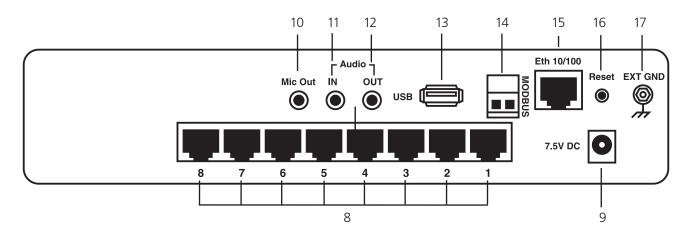


Figure 2-2. Back panel.

Table 2-2. Back panel components.

Number	Component	Description
8	(8) RJ-45 connectors	Use these ports to connect Intelligent Sensors to the ServSensor V4E Lite.
9	Barrel connector	This is a 7.5V DC plug. Connect a 7.0–9.0-V, 2.5-A power supply (included).
10	Mic out connector	Connect an external microphone for voice modem applications.
11	Audio in	Connect an external microphone.
12	Audio out	Connect the output for external speakers.
13	USB Type A port	Use the USB 1.1 port to connect a USB GBarPRS/GSM compatible modem, a USB Wi-Fi dongle, or a USB Bluetooth® dongle.
14	2-pin terminal block (RS-485 port)	The ServSensor V4E Lite supports Modbus master or slave.
15	RJ-45 10/100 network port	Use this RJ-45 port to connect your ServSensor V4E Lite to the network.
16	Reset	Press this button to reset the ServSensor V4E Lite.
17	EXT GND	Use the EXT. GND connector to externally ground the unit.

## 3. Installation

#### 3.1 Setting Up the IP Address

The ServSensor V4E Lite is shipped with the default IP address of 192.168.0.100. Follow the steps listed below to change this IP address to fit your own network configuration.

Before starting, make sure you have these items:

- (1) RJ-45 male CAT5 crossover cable
- (1) PC with Ethernet card or LAN socket
- (1) Power socket for the unit to connect to

To set up the IP address:

1. Connect the ServSensor V4E Lite via its Ethernet port to your computer's Ethernet port with a CAT5 crossover cable.

2. Open a Web browser and type the default IP address (as in Figure 3-1), then press the Enter key.

Google ×	a apply and provident forwards that the other		3
← → × ③ 192.168.0.100		8	2
🔎 - 📄 Search - 🔠 🗞 Global Ney	vs 🙆 Music 🐈 Games		-
+You <b>Web</b> Images Videos Maps News Gmail More -		Sign in 🔅	11
Type the unit default IP			
Type the time deliate in			
	Google		
	Googie		
	UK		
	Google Search I'm Feeling Lucky		=
	Steve Jobs, 1955 - 2011		
Waiting for couponbuddy.s3.amazonaws.com			-

Figure 3-1. Google Web Browser screen.

- NOTE: In some cases, your computer might not be able to connect to this default IP address. In this situation, you will need to change the IP address of your PC. See the instructions above.
- 3. After you press the Enter key in Step 2, Figure 3-2 appears. The default password for Admin is "public." Change the password to make your unit secure.

Location: System Location		Current System Time: 07/01/2000 13:06:25
	Log In	
	Username Password Login	Enter password and username here
	©1991 - 2000 All rights reserved.	

Figure 3-2. User Type/Password screen.

4. Next, the home page will be displayed. It looks similar to the screen shown in Figure 3-3.





5. Click on the "Settings" tab, then click on "Ethernet network" from the list on the left frame of the page. See Figure 3-4.

Summary	Map	Sound Log	Sensors	Notification		Access Control	Settings	Applications	Help
				E	thernet	t Network			
Setup						his interface as default	gateway		
General				Use DHCP			- N2-		
Connectivity					10.1.5.8		Enter new IP here		
Ethernet Network		Select this option			255.255				
Wifi Network					10.1.5.5				
Modbus				Domain Name Server					
SNMP				Ethernet MAC ID Ethernet Media Mode					
SNMPTraps							ĸ		
Bluetooth					Save	Reset			
Dial-In Modem									
Dial-Out Modem				3. Clic	k "Sa	ve"			
OpenVPN Client									
Serial to Network Proxy									
Server Integration									
System Administrator									
Help									
his page allows the system IP se onfigured centrally by DHCP or m									



To change the IP address of the ServSensor V4E Lite:

- 1. Select Ethernet network.
- 2. Input the new IP address.
- 3. Click the "Save" button.

## 3.2 Testing the New IP Address with the "Ping" Command

Once you assign the new IP address, use the "ping" command to test the ServSensor V4E Lite. You can also use this command as a diagnostic tool to check whether your unit is connected to the network. See Figure 3-5.

- 1. Click "Start."
- 2. Click "Run."

3. Type "ping (IP address that the user entered)," and press Enter. An example IP address (10.1.5.206) is shown in Figure 3-5.

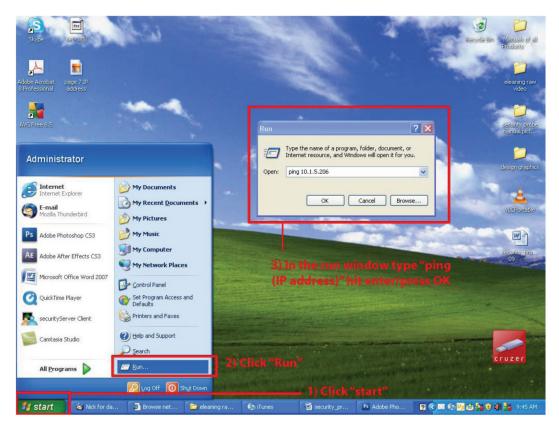


Figure 3-5. Ping Command screen.

4. After you press the "Enter" key, an MS-DOS<sup>®</sup> prompt window showing the test results appears (see Figure 3-6). If you get a message saying "request timed out," either the IP address is incorrect or a ServSensor V4E Lite is not connected to the network.

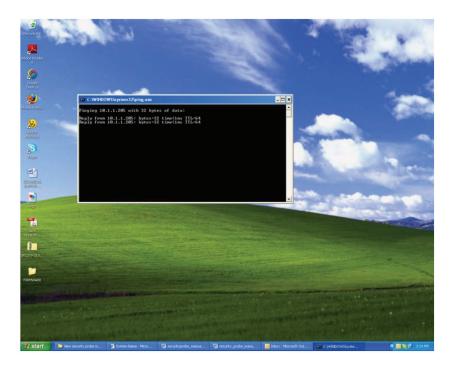


Figure 3-6. MS-DOS window.

#### 3.3 Firmware Upgrade

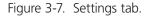
Make sure you are running the latest firmware. Please contact Black Box Technical Support at 724-746-5500 or info@blackbox.com for the latest firmware.

This tutorial gives you the information you need to upgrade the firmware.

To get to the tutorial's starting point:

- Log in as administrator.
- Click the "Settings" tab.

Location: System Location									Current System	Time: 01/01/200	00 12:59:50
Summary Map	S	ound Log	Sensors	Notifi	cation	Access Control	Sett	ings	Applicatio		Help
Summary Setting					Sensor Inf	ormation	_	67			×
Layout Setting		Host Nam	e▲	Type ▲ 🔻	and the second	Sensor Name 🔺	**************************************	Rea	ding 🔺 🔻	Status	
Sensor Filters	۲	Main Module		Module		Main Module	1			Norm	nal
Sort by : Host Name					Sensors s	tatus will be reloaded in 07 secs		1			
Son by . Host Name					System Lo	g ( 2 messages )		11			×
Advanced Filter	1	2000/01/01 12:24		er-on boot up							A
Display Status     Display Sensor Type	2	1999/12/31 13:11	1:45 System pow	er-on boot up			Click the "	Settings"	tab		Ā
											~
Search :											
Apply Filter Clear Filter											V
Expand All Modules Collapse All Modules											V
Expand An modules					System	Log will be reloaded in 08 secs					
Reload Sensor Interval : 10 secs. Apply											
Syslog Filters											



NOTE: This manual refers to the Default IP address, 192.168.0.100. Substitute this for your own IP address if you have changed the default IP address.

Time: 01/01/2000 13:03:52 Itions Help								
nona neip								
Backup Browse Restore Keep present network setting								
Send Click here to setup SMTP Server								
System Firmware Upgrade								
I. Click on System Administrator								

Figure 3-8. System Administrator, System Maintenance screen.

- 1. Click "System Administrator" and then "System Maintenance."
- 2. Click "Upgrade."
- 3. The popup screen shown in Figure 3-9 appears.



Figure 3-9. Reboot prompt.

4. Click "OK." The unit will reboot in Safe Mode. Then you will be redirected to the Safe Mode Web-based interface. This can take some time, so please be patient. The page will display the message shown in Figure 3-10 when rebooting.

Sensors	Notification	-
Firmwar	e Upgrade	
Reb	ooting	

Figure 3-10. Firmware Upgrade Rebooting screen.

5. After the ServSensor reboots, the page shown in Figure 3-11 appears. Click "Browse" and navigate to the firmware file you downloaded, then click "Upgrade."

			[Safe Mode v. 3.
BOOT: FIRMWARE UPGRADE			
	Firmware U	pgrade	
	1. Download the firmware file from www.black 2. Enter the firmware file name 3. Upgrade Click "Upgrade"	dox.com on to your local hard disk. Browse Click here to navigate to the upgrade file you downloaded from our website	
	Upgrade si	tatus	
	Waiting to upgrad		
5			

Figure 3-11. Upgrade button.

6. During the process, you will see the messages shown in Figure 3-12.

	Upgrade status	
1 %	Upgrading mega firmware	
When this is complete the During the u	nd half of the upgrade process. It will take approximately 30 minut e upgrade status will say "Complete" and the system will reboot at pgrade process, the red LEDs run from left to right continuously. reen LEDs show the percentage of the upgrade process.	

Figure 3-12. Upgrade Status screen.

7. The unit will then reboot. The process is complete when the LEDs are back to their "normal" status.

#### 3.4 Multi-users and Groups Setup

#### 3.4.1 Group Setup

- 1. Log in to the ServSensor V4E Lite with the Administrator password. The default will be "public" if you have not changed this yet.
- 2. Click on the Settings page, then System Adminstrator, then User & Group Management as shown in Figure 3-13.
- NOTE: The following screen diagrams may appear small and hard to read. Please use the zoom feature in your PDF reader program to increase the size of the page to better view these screen diagrams.

Location: System Locatio	n							/2000 09:36:18
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				User & Gr	oup Management			
Setu	p	Users	Groups	3 Click th	e "Groups" tab	1. Click "Set	tings	
<u>General</u>				o. onok u				
Connectivity		User Name 🔺 🔻	Group Name 🔺 🔻		Description	Login session timeout (minu		
Server Integration		Admin *	Administrator		t-in account for administrator		60	
System Administrator		User * User Built-in account for user 60						
Password Checking User & Group Mana System Maintenanc Services and Secur System Log	ement 2. Clc 2 tv	* Cannot remove. k "User & Group Mang	gement"	Add Re	move Properties			
Heartbeat Message Hear This page allows enablin changing of the User and	g, creation and			©1991 - 2000 A	ill rights reserved.			

Figure 3-13. Group Setup screen.

3. Click on the "Go to Group Setup" link that will take you to the Groups page shown in Figure 3-14.

Location: System Location							Current System Time: 02/01	1/2000 09:40:16
Summary	Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
		22 (A)	0]	User & G	roup Management			
Setup		The same						
<u>General</u>		Users	Groups					-
Connectivity			Group Name 🔺 🔻			Description		
Server Integration			-			-		
System Administrator								
Password Checking	100			Add	emove Properties			
User & Group Managem	ent			Click "Add"				
System Maintenance								
Services and Security								
System Log								
Heartbeat Messages								
Help	1							
This page allows enabling, c changing of the User and Adr	reation and min password.							
				©1991 - 2000	All rights reserved.			

Figure 3-14. Groups page.

4. Click on the "Add" button to add your groups as shown in Figure 3-14.

Summary	Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	He
				User & Gi	roup Management			
Setup								
General		Users	Groups					
Connectivity		Group Setup						
Server Integration								
System Administrator			Group Name System Gu	est				
Password Checking			Descritption Guest of th	e system				
User & Group Management	E							
System Maintenance				Object		Modify	View	
Services and Security				er Management Connectivity		(C)		
System Log				Systems			V	
Heartbeat Messages			Ser	isors and Maps				
Help	1			Notifications				
This page allows enabling, creat	bac an		Acknowledge	Sensors and Notification				
hanging of the User and Admin	password.						1.1.1	
				Cance	Finish			

Figure 3-15. User & Group Management screen.

- 5. Enter your group name. For example, we have added a group called "System Guest" and entered our description.
- 6. Check the objects with the Web interface that this group will be able to Modify and View. Then, click the "Finish" button to save your group. (See Figure 3-15.)

Location: System Location Summary Map	Sound Log	Sensors	Notification	Access Control	Settings	Current System Time: 02/01/ Applications	2000 09:45:33 Help
Summary Map	Sound Log	Sensors		roup Management	setungs	Applications	пер
Setup				oup management			
General	Users	Groups					
Connectivity		Group Name 🔺 🔻			Description		
Server Integration		System Guest			est of the system		
System Administrator		New group shown	nere		0.1		
Password Checking			Add	emove Properties			
User & Group Management							_
System Maintenance							
Services and Security							
System Log							
Heartbeat Messages							
Help							
This page allows enabling, creation and changing of the User and Admin password.							
changing of the Oser and Admin password.							
			©1991 - 2000 /	All rights reserved.			

Figure 3-16. System Guest group added.

7. The new group "System Guest" has been added to our group list as shown in Figure 3-16.

Location: System Location							Current System Time: 02/01	/2000 09:47:07
Summary	Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				User & Gr	oup Management			
Setup	_							
General		Users	Groups					_
Connectivity			Group Name 🔺 🔻			Description		
Server Integration			System Guest		Gu	est of the system		
System Administrator								
Password Checking				Add Re	move Properties			
User & Group Managemen	11				4/6 m (62)			
System Maintenance								
Services and Security								
System Log					After highlighti	a the group click "	Properties" to modify s	eattinge
Heartbeat Messages					Alter Highlighti	ig the group click	riopenies to modify a	settings
Help								
This page allows enabling, crea changing of the User and Admin								
				©1991 - 2000 A	All rights reserved.			

Figure 3-17. User & Group Management screen.

8. If you want to modify your group settings, click on the group you want to modify. Then click on the "Properties" button as shown in Figure 3-17.

#### 3.4.2 User Setup

1. Click on the "Users" tab and then click the "Add" button to add the new users to your groups as shown in Figure 3-18.

Location: System Location						Current System Time: 02/01	/2000 09:48:52
Summary Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
			User & G	Froup Management			
Setup		1/					
General	Users	Groups					
Connectivity	User Name 🔺 🔻	Group Name A V		Description	Log	in session timeout (minutes)	
Server Integration Add		Administrator	BI	uilt-in account for administrator	Eog	60	-
System Administrator	User*	User		Built-in account for user		60	
Password Checking	* Cannot remove.						
User & Group Management	Cumorromoron						
System Maintenance			Add	Remove Properties			
Services and Security			and the second s				
System Log	L						
Heartbeat Messages							
Help							
This page allows enabling, creation and changing of the User and Admin password.			After sele	ecting "Users" Click "Add			
			©1991 - 2000	) All rights reserved.			

Figure 3-18. User Setup screen.

2. Enter your user details as shown in Figure 3-19. In our example, we have entered Bob Smith as your Guest into our "System Guest" group. We have also added the option so that this user cannot change his login password. After adding your users for each group, click the "Finish" button to save each user.

Location: System Location Summary Map	Sound Log	Sensors	Notification	Access Control	Settings	Current System Time: 02/01 Applications	Help		
		1	User & (	Group Management					
Setup	11	0							
⊞ <u>General</u>	Users	Groups							
Connectivity	User Setup								
Server Integration		r name, password, descritption a	ind then select the memb	er of the group.					
System Administrator									
Password Checking	User Details								
User & Group Management	User Name BobSmith 😰 User Cannot Change Password					Change Dassword			
System Maintenance		Password			· · · · · · · · · · · · · · · · · · ·				
Services and Security		Confirm Password		_					
System Log		Description	Guest						
Heartbeat Messages	L	ogin session timeout (minutes)	60						
Help		Member of Group	System Guest 👻 Go	to Group Setup					
This page allows enabling, creation and									
changing of the User and Admin password.				Click "F	inish" when you ha	ave completed your			
			Cane	cel Finish	data enti	ry			
			@1991 - 200	0 All rights reserved.					

Figure 3-19. Enter user details.

3. The new user has been entered into our list of users.

Location: System Location						-	Current System Time: 02/01	
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				User & Gr	oup Management			
Setup								
<u>General</u>		Users	Groups					
Connectivity		User Name 🔺 🔻	Group Name A 🔻		Description	Logir	n session timeout (minutes)	
Server Integration		Admin *	Administrator	Buil	It-in account for administrator		60	
System Administrator		User*	User		Built-in account for user		60	
Password Checking		BobSmith	System Guest		Guest		60	
User & Group Manageme	nt	* Cannot remove.						
System Maintenance								
Services and Security				Add Re	move Properties			
System Log								
Heartbeat Messages								
Help								
This page allows enabling, cre changing of the User and Admi								
				84004 0000	All rights reserved.			
				@1991 - 2000 A	un ngnis reserved.			

Figure 3-20. User list.

4. To modify a user's setting, click on the user to select it, then click the "Properities" button as shown in Figure 3-21.

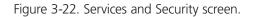
								1
Location: System Location							Current System Time: 02/01/	
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				User & G	roup Management			
Setup								
General		Users	Groups					
Connectivity		User Name 🔺 🔻	Group Name A V		Description	Login	session timeout (minutes)	
Server Integration		Admin *	Administrator	Bu	ilt-in account for administrator	Login	60	-
System Administrator		User*	User		Built-in account for user		60	
Password Checking		Bob Smith	System Guest		Guest		60	
User & Group Managemen		* Cannot remove.						
System Maintenance	•				-			
Services and Security				Add Re	emove Properties			
					After highlighting you	ir user select "Prop	erties" to modify settin	ane
System Log					ritter nightighting jet		or the the thready better	igo.
Heartbeat Messages								
Help	14-							
This page allows enabling, crea	ation and							
changing of the User and Admir	n password.							
				0.000.0000				
				@1991 - 2000	All rights reserved.			

Flgure 3-21. Properties button.

#### 3.5 Services and Security

## 3.5.1 Active Services Application (Disabling)

Notification	Access Control	Settings
Service	s and Security	
Acti	ive Services	
	agios ecure Shell	
I Te		
V W	eb Interface (HTTP)	



You can enable or disable the Nagios, Secure Shell, and Telnet applications running on the unit to make it more secure.

# 3.5.2 Closing or Changing Ports Disabling HTTP and Enabling HTTPS

Notification	Access Control	Settings
Se	rvices and Security	
	Active Services	
-0	<ul> <li>Nagios</li> <li>Secure Shell</li> <li>Telnet</li> <li>Web Interface (HTTP)</li> </ul>	
Active Services	Secure Web Interface (HTTPS)	ble Port

Figure 3-23. Active services.

You can also close or change the ports used to access the unit's Web interface, disable HTTP, and enable HTTPS only.

The "s" at the conclusion of HTTPS stands for secure. The SSL/TLS connection type is used primarily for high-value sites or "pages," to make it more likely to be unreadable to someone at the end points.

The traffic between client and the ServSensor V4E Lite is not cached along the various units as it moves across the Internet, so it can't be accessed by someone after the connection is terminated.

3.5.3	The	SNMPv3	SSL	<b>Security</b>	Feature
-------	-----	--------	-----	-----------------	---------

A CARLON AND AND A CARLON AND AND A CARLON AND AND AND AND AND AND AND AND AND AN	Access Control	Settings
Se	rvices and Security	
	Active Services	
Active Services	Secure Web Interface (HTTPS)	otocol Version 3 (SNMPv

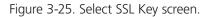
Figure 3-24. Add Key screen.

Use the SNMPv3 SSL (Secure Sockets Layer), which is the standard security technology for establishing the encrypted link betwen the ServSensor and the Web browser. The link ensures that all data passed between the ServSensor and the browser remains private and integral.

SNMPv3 provides important security features:

- Confidentiality—Encrypts packets to prevent snooping by an unauthorized source.
- Integrity—Message integrity to ensure that a packet has not been tampered with in transmit.
- Authentication—To verify that the message is from a valid source.

🕙 Upload SSL Key - Mozilla F	irefox	- 🗆 ×
http://10.1.1.162/uploadS	K.php?PHPSESSID=82e1629ed458be46bb71a6f4dd38eace	☆
	Select ssi key	
File :	Browse       Add File       e name must be userkey.pem	
	<u>Close</u>	



#### 3.5.4 Active Security

In the active security section, you can enable users who are logged into the unit's Web interface to "Acknowledge" alarms, which is normally reserved only for the Administrator.

When the unit boots up, it will announce the IP address that it has been configured with. As an added security feature, this announcement can be disabled so that the IP address remains unknown.

Active Security					
Active Security	<ul> <li>Allow Users to Acknowledge Alarms</li> <li>Announcement IPAddress When Login</li> </ul>				
Save	Reset				

Figure 3-26. Active Security screen.

#### 3.5.5 The NAC or Network Access Control Security Feature



Figure 3-27. Network Access Control screen.

The NAC or Network Access Control feature enables you to restrict access to the Web interface for only certain IP addresses, or deny access to the Web interface for only certain IP addresses.

#### 3.6 Setting Up a Sensor

This section describes the basic setup of a sensor, using a Black Box temperature sensor as an example. If you require information on specific functions of a particular sensor, then download the manual for that sensor from our Web site, www.blackbox.com.

1. Plug the sensor into one of the RJ-45 "intelligent sensor ports" on the ServSensor's rear panel. In this example, we will use Port 1. See Figure 3-28.



Figure 3-28. Intelligent sensor Port 1.

2. Point your browser to the ServSensor's IP address (the default is 192.168.0.100). Log in as the administrator using your administrator password (the default is "public"). You will then be taken to the summary page shown in Figure 3-29.

Summary Map	Sound Log	Sensors	Notification	Access Control	Settings	Applicatio	ons Help
Summary Setting			Sensor	Information			
Layout Setting	Host Nam	ie 🔺	Type ▲ ▼	Sensor Name 🔺 🔻	Re	ading 🔺 🔻	Status 🔺 🔻
Sensor Filters	Main Mo	dule	Temperature	Temperature Port 8		27.0 °C	Normal
Syslog Filters			Senso	rs status will be reloaded in 10 secs			
Sort by : Date	0		System	Log ( 0 messages )			
Number of display items per page 10 -							
		212					
Advanced Filter B Display Log Level	Ser	nsor Inforr	nation is listed	here			
Display Log Type	1000						
Display Notification							
Display Sensor Type     Display Sensor Status							
Apply Filter Clear Filter Clear Syslog			Syst	em Log will be reloaded in 09 secs			
	-						
eload Syslog Interval : 10 secs. Apply							

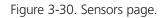
#### Figure 3-29. Summary page.

The temperature sensor should be listed, along with its current reading and status.

This summary page enables you to quickly see which sensors are connected and their status, view the system log, and also view footage from any connected cameras. Next are some of the tools the Web-based interface provides for getting feedback from the sensors.

3. Click on the temperature sensor's name (indicated in Figure 3-29). This will bring you to Figure 3-30, the Sensors page.





NOTE: Another way to access this page is to click on the "Sensors" tab at the top of the page.

#### 3.6.1 Notification Thresholds

From this page, you can carry out various operations as indicated above. You can also view the current status (normal, low critical, high critical, etc). In Figure 3-30, the sensor indicates a temperature of 27° C and a status of Normal. If you click on the blue marker arrow next to the "Threshold adjustment" label (shown in Figure 3-30), you can drag this marker to re-configure the thresholds. After dragging the marker, click "Save." In Figure 3-31, you can see that this marker has been moved to make a new threshold, and the sensor status has changed along with it.

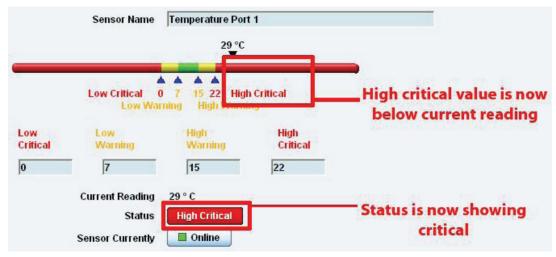
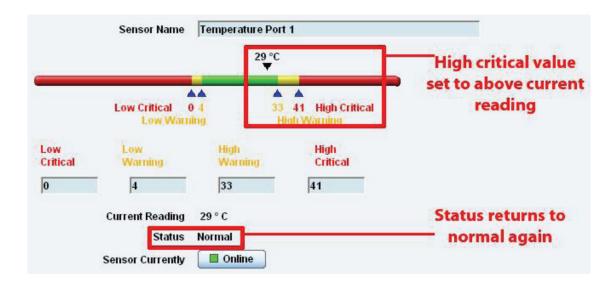


Figure 3-31. High critical status shown.

If the marker is then dragged back above the current temperature reading, the status should return to a normal condition again. (See Figure 3-32.)



NOTE: If this does not happen right away, press the browser's refresh button.

Figure 3-32. Normal status indicated.

If you want to take a sensor offline, then click on the "Sensor Currently" button. This will place the sensor offline and you won't have to physically unplug it. See Figure 3-33.

Current Reading	29 ° C	
Status	Normal	Click this button to
Sensor Currently	Online	take a sensor offline

Figure 3-33. Sensor Online/Offline screen.

Your page will look similar to Figure 3-34 after you take the sensor offline.

Summary	Map	Sound Log	Sensors	Notification	Access	Control	Settings	Applications	Help
					Sensor Settin	gs			
Sensors Men	u				Host Name Main	Module			
Sensor Ports					nost name  Main	Module			
xpansion Boards					Save Res	set			
Sound Detector									
Power Meter									
Virtual Sensors		1	2	3	4	5	6	7	8
Help	Ξ.								
This page shows the sensor	Auto Se	ense 🔲 Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sens
respective status and state.	Statu	-	•	•	•	•	•	•	•
Click on a port to display or co settings.	onfigure its Onlin	ie 🔘	•	•	•	٠	•	•	•
		[TITITION]	[TITITITI]	111011011	TITUTION]	TTITITE ]	[TOTOTICO]	(TITETICE)	[11111101]
						-Passar			"Rooms"
		N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
			@100	1 - 2000 All rights resear	ad				
			0133	- 2000 All rights reserv	50.				100 1000
			©199	1 - 2000 All rights reserv	ed.	The shaded	sensor icon indica	too that the cons	or in offlig

Figure 3-34. Sensor Offline screen.

To bring a sensor back online, select the type from the drop-down menu and click "Save." See Figure 3-35.

Location: System Location								Current System Tim	e: 02/01/2000 11:26:40
Summary Map		Sound Log	Sensors	Notification		Access Control	Settings	Applications	Help
					Sensor	Settings			
Sensors Menu		1	2	3	4	5	6	7	8
Sensor Ports	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Ser	nse 🗌 🗖 Auto S	ense 🔲 Auto Sense	Auto Sense	Auto Sense
Expansion Boards	Status	_	•	•			_		
Sound Detector	Online								
Power Meter					[				
Virtual Sensors		TITUTICO		THURSD	11101100				
Help			Lister .						
This page shows the sensor ports and their		N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
respective status and state. Click on a port to display or configure its								5	
settings.				-					
				Please reconnect th	e sensor or se	lect your sensor for t	his port below.		
				Select sensor fo	r this port	4-20 mAmp 💌	Save Click Save		
						4-20 mAmp AC Voltage			
						Airflow			
			©199	1 - 2000 All rights reserv	ed.	Digital Voltmeter Dry contact I/O			
						Dual Sensors Fuel Level Sensor			
						Liquid Rope			
						Motion Power			
						Probe Switch Relay			
					:	Security			
			Select sensor from	m dron down me		Siren Smoke Detector			
Done			Select sellsor itor	in drop down me		Temperature	Internet   Protect	ed Mode: On	4 + • • 100% •

Figure 3-35. Select Sensor Type screen.

# 3.6.2 Advanced Sensor Settings

Click on the Advanced Settings tab to get the options shown in Figure 3-36.

Location: System Location								Current	System Time	: 17/02/2012 17:15:42
Summary	Мар	Sensors	Noti	ification	Access Control	Settings	;	Applicati		Help
					Sensor Setting	js				
Sensors Menu		1	2	3	4	5	6		7	8
Sensor Ports	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto S	Sense	Auto Sense	Auto Sense
Expansion Boards	Status									,
Power Meter	Online	-	-	-	-	-				-
Virtual Sensors	onnic									
SNMP OID		T BEBERER	01010000	01000000	TITUTIO	[ OTOBELOO ]				
Get SNMP OID							1			
Help		N/C	N/C	N/C	N/C	N/C	Tempera	ature	Water	Dual Sensors
This page shows the sensor ports				_	Dual Temperatu	ire 🔻				
and their respective status and			Normal Settings	Advanced S	ettings Continuous	s Time Settings	Minimum 1	Time Settings		
state. Click on a port to display or			-							
configure its settings.						it 🔍 Celsius				
Helpful Suggestion					Rearm 2					
				Read	ing Offset 0	_				
Rearm				Data Colle	ction Type Average 💌	•				
One way to reduce the amount of false warnings when				Die	play Style @ p i av					
temperatures are frequently				Dis	play Style <a> </a> Basic Style	le 🔍 Gauge Style				
fluctuating, is to set the "Rearm" feature here. This is similar to the				Check rate	of change 💿 Enable 🧕	Disable				
"Continuous Time" feature as it will filter out, or not allow										
additional alerts to be sent if the				Ena	ble Graph 🛛 On 🔍 Off	f				
temperature fluctuates within the					_					
degree this has been set to				F	Popup Wind	lows on Sensor Nam	le			
Continuous Time for Sensor										
One way to eliminate false				U,	Current W	Vindows 🔘 New Wi	nuows			
warnings in an unstable temperature ennvironment, is to				Fil	ter Status 💿 Enable 🤅	Disable				
add time in the continuous time to										
report feature here.				Enable	Calendar 💿 On 🔍 Off	f				
Minimum Time Status										
Prevents the status from					Save Rese	et				
fluctuating within the time set. Eg. Sensor can only show high critical					Set Thermostat On	line				
state once within 3 seconds, if										
value is set to 3 seconds.										

Figure 3-36. Advanced Sensor Settings screen.

Advanced Mode Functions:

Dual Temperature ▼							
Normal Settings	Advanced Settings	Continuous Time Settings	Minimum Time Settings				
	Units Rearm	○ Fahrenheit					
	Reading Offset	0					
	Data Collection Type	Average 🗸					
	Display Style	Basic Style Cauge Style					
	Check rate of change	🛇 Enable 🔘 Disable					
	Enable Graph	© On <sup>●</sup> Off					

Flgure 3-37. Advanced mode functions, units.

Units: Changes units from C to F or vice versa.

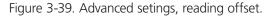
Dual Temperature ▼								
Normal Settings	Advanced Settings	Continuous Time Settings	Minimum Time Settings					
	Units Rearm Reading Offset Data Collection Type Display Style	<ul> <li>Fahrenheit <ul> <li>Celsius</li> <li>Celsius</li> <li>Average</li> <li>Basic Style</li> <li>Gauge Style</li> </ul> </li></ul>						
	Check rate of change Enable Graph	<ul> <li>○ Enable <ul> <li>● Disable</li> <li>○ On <ul> <li>● Off</li> <li>●</li> <li>●</li></ul></li></ul></li></ul>						

Figure 3-38. Advanced mode functions, rearm.

Rearm: The Rearm parameter is useful for sensors, such as the temperature and humidity sensors, whose values can vary.

This prevents the sensor from flickering between two states. For example, if the Warning High threshold for the temperature sensor is set to 80 degrees, and the sensor temperature varies between 79 and 80, you could be faced with a very large number of e-mails, traps, and events logged. The Rearm parameter prevents this by forcing the temperature to drop by the Rearm value before changing the state back to normal. In this example, if Rearm is set to 2, then the sensor would have to drop from 80 down to 77 before the status would change from Warning High back to normal.

Dual Temperature ▼								
Normal Settings	Advanced Settings	Continuous Time Settings	Minimum Time Settings					
	Units	© Fahrenheit () Celsius						
	Rearm	2						
	Reading Offset	0						
	Data Collection Type	Average 🚽						
	Display Style	Basic Style O Gauge Style						
	Check rate of change	🔘 Enable 🔘 Disable						
	Enable Graph	© On  ◎ Off						



**Reading offset:** A calibration tool. If you want to calibrate the temperature sensor, for example, you could enter an offset value of 5. This means that if the sensor reads 20 degrees then it would record as 25 degrees. This figure can also be a minus figure (for example, -5 would show 15 degrees instead of 20).

	Dual	Temperature 🔻				
Normal Settings	Advanced Settings	Continuous Time Settings	Minimum Time Settings			
	Units	Celsius				
	Rearm	2				
	Reading Offset	0				
	Data Collection Type	Average 🚽				
	Display Style	◉ Basic Style ◎ Gauge Style				
	Check rate of change	🔘 Enable 🔘 Disable				
	Enable Graph	© On  ◎ Off				
		Popup Windows on Sensor Na	me			
	Sensors URL					
	Open link in	Current Windows O New W	lindows			
	Filter Status	Inable O Disable				
	Enable Calendar	🔘 On 🔘 Off				
Save Reset Set Thermostat Online						

Figure 3-40. Advanced settings, data collection type.

#### Data Collection Type

This refers to the data collection from the sensor and how the data is then displayed on the graphs.

There are three options for collection of data: Average, Highest, and Lowest. The default setting is "Average."

When the data collection type is set to "Average," the output graphs for the daily, monthy, and yearly all have the same size on the screen. For the daily graph, each data point on the graph is one data point collected from the sensor. But for the monthly and yearly graph, to display more data into the same size as for the daily graph, some consolidation on the data is needed. One data point on the monthly and yearly graph is the average of the sensor data in a range.

The maximum and minimum values showing on the monthly and yearly graphs are the value of this consolidated data and not the raw data over that period of time.

When the Data Collection Type is set to the highest setting, then you will get the graphing output dsiplaying the sensor's highest reading. This is the same for the lowest setting.

Dual Temperature ▼				
Normal Settings	Advanced Settings	Continuous Time Settings	Minimum Time Settings	
	Units	© Fahrenheit		
	Rearm	2		
	Reading Offset	0		
	_			
	Data Collection Type	Average -		
	Display Style	◉ Basic Style  © Gauge Style	)	
	Check rate of change	🔘 Enable 🔘 Disable		
	Enable Graph	© On  ◎ Off		
		Popup Windows on Sensor Na	me	
	Sensors URL			
	Open link in	Current Windows O New W	lindows	
	Filter Status	Enable O Disable		
	Enable Calendar	🔘 On 🔘 Off		
Save Reset Set Thermostat Online				

Figure 3-41. Advanced settings, display style.

#### **Display Style**

You can keep the sensors "Dislplay Style" in the Web interface as the Basic Style (slide bar) or you can change it to "Gauge Style."

	2	3	4	5	
ense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	A 🗐 (
	•	•	•	•	
	•	•	•	•	
n					F
J					4
	You have selected				4
		to manually edit the sen ve the changes for this t		na description.	Ten
			ОК	Cancel	Minim
			UK	Cancer	
		F	Rearm 2		
		Reading	Offset 0	T	
		Data Collectio	n Type Averag	e 🖵	
			, -		
		Display	y Style 💿 Basic	Style 🔘 Gauge Style	
		Charlenste effe			
		Check rate of c	nange 🔘 Enabl	e 🖲 Disable	
		Enablo	Graph @ o @	0.00	

Figure 3-42. Gauge Style screen.

When switching to the Gauge Style type, you will first be prompted with the popup dialog box shown above.

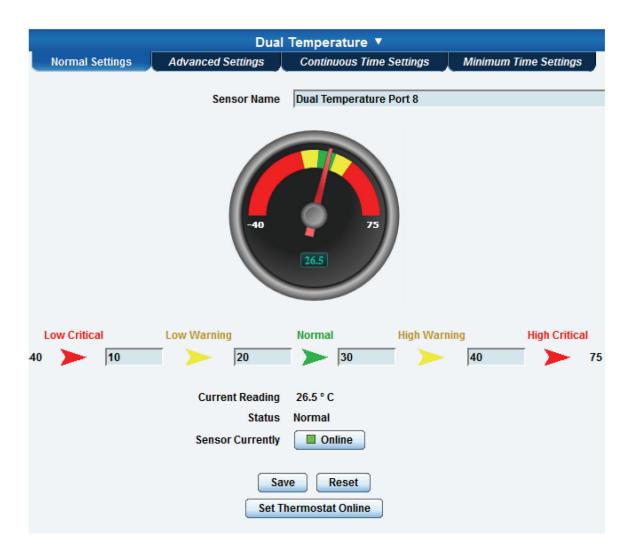


Figure 3-43. Sensor threshold levels.

You will now see the new display where you can set the sensor's threshold levels as shown above.

Dual Temperature ▼					
Normal Settings Advanced Settings	Continuous Time Settings	Minimum Time Settings			
Units Rearm Reading Offset Data Collection Type	<ul> <li>○ Fahrenheit <sup>®</sup> Celsius</li> <li>2</li> <li>0</li> <li>Average ▼</li> </ul>				
Display Style	Basic Style      Gauge Style     Gauge Style     Gauge Style     Sty				
Advanced Status Text and Color	Low Critical				
	Low Warning				
	Normal				
	High Warning				
	High Critical				
	Sensor Error				
Check rate of change	© Enable <sup> </sup>				

Figure 3-44. Advanced Settings Text and Colors screen.

After clicking on the "Advanced Settings" tab, you can change the text and colors for each sensor threshold as shown in the screen above.

Dual Temperature ▼						
Normal Settings	Advanced Settings	Continuous Time Settings	Minimum Time Settings			
	Units	🔘 Fahrenheit 🗕 Celsius				
	Rearm	2				
	Reading Offset	0				
	Data Collection Type	Average 👻				
	Display Style	Basic Style  Gauge Style				
(	Check rate of change	🖲 Enable 🔘 Disable				
Maximu	m acceptance of change	10 🖵 %				
	Period of time	5 👻 minutes				
	Direction	Both 👻				
s	tatus when exceeds limit	High Critical 👻				
	Enable Graph	© On ◉ Off				

Figure 3-45. Advanced Settings, Check Rate of Change screen.

#### Check rate of change

When enabling the "check rate of change" feature for the sensor, you can set the rate in a percentage ranging from 1% to 80% over a period of time ranging from 1 to 20 minutes. You can set the direction to Up, Down, or Both, and you can set the Status when the limit is exceeded to show either High Critical or Low Critical.

You can tie this sensor alert to any notification. Use it with a fuel level sensor to alert you to theft of fuel or leaks in storage tanks.

#### Continuous Time Settings and Minimum Time Settings Tabs

The following advanced functions set the time frame in which the system should delay a notification being triggered when a sensor gives a reading that exceeds the thresholds (high warning, normal, etc).

**Continuous Time to Report High Critical:** This helps to eliminate unnecessary messages during minor fluctuations. You can set the amount of time to delay a notification of a status change from high warning to high critical. Enter the time in seconds and press the "Save" button. The amount of time that you can enter is between 0 and 65535 seconds, which equals approximately 18 hours.

Continuous Time to Report High Warning: As above, but delays notification for "High Warning."

Continuous Time to Report for Normal: As above, but delays notification for return to "Normal" state.

Continuous Time to Report for Low Warning: As above, but delays notification for "Low Warning" state.

Continuous Time to Report for Low Critical: As above, but delays notification for "Low Critical" state.

Continuous Time to Report for Sensor Error: As above, but delays notification being sent for sensor going into an error state.

**Example:** An airflow sensor or humidty sensor may have temporary drops in readings that are normal operating characteristics; a logical time limit is set to show abnormal conditions.

Enable Calendar: If you select this option, the screen shown in Figure 3-46 will be displayed.

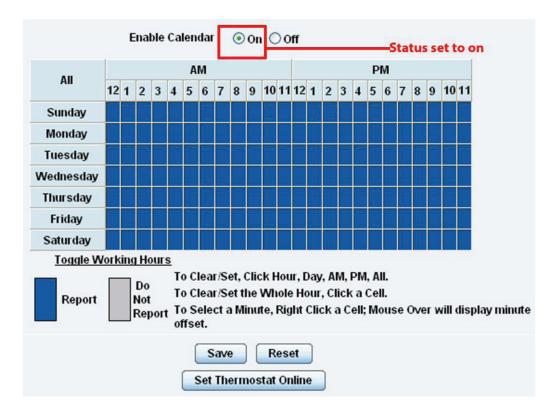


Figure 3-46. Enable Calendar Status screen.

In this example, we want to monitor an office building between the hours of 7 PM–9 AM Monday–Friday only. You can see in this picture we have selected the "Do Not Report" option for the hours in which we do not want to receive any notifications or have any events logged. You change the status of that time frame (Report/Do Not Report) simply by clicking on the square. This will change it from blue to gray; a second click will return it to blue.

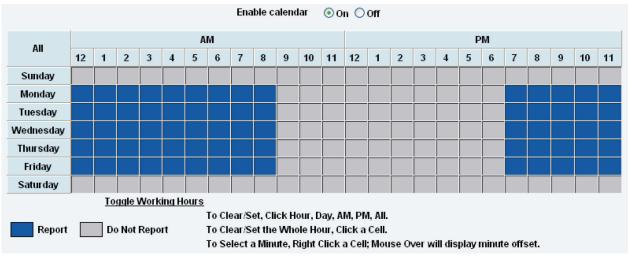


Figure 3-47. Enable Calendar screen.

## 3.7 Using an Internal Mic as a Sound Detection Sensor

You can use the internal microphone (or an external plugged into the line in jack) as a sound detector.

This tutorial provides you with the information you need to set up the internal mic as a sound detection sensor.

To get to the starting point of this tutorial:

- Log into the Web based interface.
- Click on the Sensors tab.
- 1. Click "Sound Detector" under the Sensors menu. See Figure 3-48.
- 2. Click "Advanced Mode."
- 3. After you click on the Advanced Mode button, you'll see the advanced options available. (See Figure 3-49.)





Recording Source	Internal Microphone 💌
Microphone Boost (+20dB)	● On ◎ Off
Microphone Sensitivity	◎ 0 ◎ 20 ◎ 40 ◎ 60 ● 80 ◎ 100
Pulse Length	0 Millisecond
Rearm	5 Percent
Data Collection Type	Average -
Display Style	Basic Style      Gauge Style
Advanced Status Text and Color	Low Critical
	Low Warning
	Normal
	High Warning
	High Critical
	Sensor Error
Enable Graph	On Off
	Popup Windows on Sensor Name
Sensors URL	
Open link in	Current Windows O New Windows
Enable Calendar	On Off
Sa	Reset

Figure 3-49. Advanced options.

Recording Source: Here you can choose either internal or external microphone.

Microphone Boost (+20 dB): Boosts the microphone by 20 dB.

Microphone Sensitivity: The level of sensitivity that can be set.

For example, if you set the level to 80, the microphone will detect more sound than if the level were set at 20.

Pulse Length: This defines the minimum duration of a sound to trigger an alert notification.

**Rearm:** The Rearm parameter prevents the sensor from flickering between two states. For example, if the Warning High threshold for the sound sensor is set to 80 and the sensor temperature varies between 79 and 80, a very large number of e-mails, traps, and events would be logged. The Rearm parameter prevents this by forcing the signal level to drop by the Rearm value before changing the state back to normal. In this example, if Rearm is set to 2. then the sensor would have to drop from 80 down to 77 before the status would change from Warning High back to normal.

**Data Collection Type:** There are three settings for this parameter: lowest, highest, and average. Data will be collected for the lowest, highest, or average sound reading accordingly.

Advanced Status Text and Color: Here you can select to change your display text and warning colors.

NOTE: As with all the other sensors, you can now set up the sound detector to be attached to a notification. Then, when your thresholds are broken, it will trigger a specified type of notification.

#### 3.8 Expansion Ports

The ServSensor has two expansion ports that enable you to connect up to two daisychainable expansion modules. The available expansion modules are an 8-port intelligent sensor board (EME1X8) and an opto-isolated (16) dry-contact expansion module (EME1DC16). In this section, we will go through the basic setup of the 8-port intelligent sensor board. If you need information on specific functions of a particular sensor or expansion board, then please refer to the relevant manual for that product.

1. Plug the expansion board into one of the two ports located on the front panel of the unit. These are numbered E1 and E2. See Figure 3-50.



Expansion boards plug into these ports

Figure 3-50. Plug expansion boards into these ports.

2. From the summary page, navigate to the "Sensors" tab. Then click "Extended port" as outlined in Figure 3-51.

Location: System Location						Current System Time	e: 06/01/2000 10:12:22
Summary Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
			s	ensor Settings			
Sensors Menu				Expansion Port1			
Sensor Ports Expansion Roards Expansion Port1 Expansion Port2 Expansion Port3 Expansion Port3 Expansion Port3 Expansion Port3 Expansion Port4 Expansion Port5	Expansion Port1	odule 0A000764	Click on the "Senso	ors" tab			
Expansion Port4 Sound Detector				Expansion Port2			
Sound Detector     Power Meter		Then click on "	Expansion Boards"				
Virtual Sensors Help							
Click on a port to display or configure its	Expansion Port2						
settings.				Expansion Port3			
Move E-module Settings				Expansion Forto			
If you need to move your sensor setting from one E-module to another, first connect the expansion modules, then simply drag the E- module icon to the E-module you would like to move the settings to and drop it onto that E- module.	Expansion Port3						
Please Note: You will lose your original settings because this process duplicates				Expansion Port4			
sensor ID's which connot be the same on the unit.							
	Expansion Port4						

Figure 3-51. Sensors tab, extended port option.

3. A list of all extended ports will be shown. Each port will display any available extension modules, which will be highlighted in green. Click on the module to go to the sensor settings page.



Figure 3-52. Extended Port1 selection.

4. This will bring you to the Extended Port Sensors page (see Figure 3-53).

Summary Map	r s	Sound Log	Sensors	Notification	Acce	s Control	Settings	Applications	Help
					Sensor Sett	ngs			
Sensors Menu					Expansion Po	rt1			
Sensor Ports Expansion Boards • Expansion Port1 • Expansion Port2 • Expansion Port3 • Expansion Port4	Expansion Po	M	odule 0A000764		Module 0A00	0764			
	2				-	The Part of the Pa			Active Actives
Power Meter						dule 0A000764		Change I	Name here
Sound Detector The Power Meter <u>Virtual Sensors</u> Help					dule Status	nected	r Disable vour m		Name here
Power Meter <u>Artual Sensors</u> Help This page shows the list of extended noduless connected.					dule Status Cor le Currently	nected	r Disable your m		Name here
Power Meter <u>Artual Sensors</u> Help This page shows the list of extended noduless connected.		1	2		dule Status Cor le Currently	Enable Enable or	r Disable your m		Name here 8
Power Meter <u>firtual Sensors</u> Help his page shows the list of extended noduless connected.	Auto Sense	1 Auto Sense	Z	Mod	dule Status Cor le Currently Save R	Enable of Enable		nodule here	8
Power Meter irtual Sensors Help his page shows the list of extended oduless connected.	Auto Sense Status			Mod 3	dule Status Con le Currently Save R	nected Enable Enable or eset	6	nodule here 7	8
Power Meter irtual Sensors Help his page shows the list of extended oduless connected.	_			Mod 3	dule Status Con le Currently Save R	nected Enable Enable or eset	6	nodule here 7	8
	Status			Mod 3	dule Status Con le Currently Save R	nected Enable Enable or eset	6	nodule here 7	

Figure 3-53. Extended Port Sensors page.

5. Once you have clicked on the "Dual sensors" tab, you will be directed to the familiar-looking Notification Thresholds page (see Figure 3-54). From this page, you can carry out various operations as indicated in the sensor settings tutorials.

cation: System Location									lime: 30/7/09 20:46:4
Summary	Мар	Picture Log /	Sound Log	Sensors	Notification	Settin	js í Aj	oplications	Help
					Sensor Setti				
Sensors Menu					Extended Port	11			
ensor Ports									
ctended Port Extended Port1									
Extended Port2	19	/ <sup>2</sup>							
Extended Port3	Extended	Dortd	Board 0A00000						
Extended Port4	Extended	Polti							
mera Motion Detection					Board 0A0000	04			
ound Detector		1	2	3	4	5	6	7	8
Camera Signal Detector	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense	Auto Sense
rtual Sensors	Status	•			•				
Help	Online		ŏ			ě			
is page shows the list of tended boards			<b>I DE DE DE DE</b>	000000		TOTOFICO T	<b>DELEGENCE</b>		
nnected. ick on a board to setting.		V E		The state of the s				Y EI	
ick off a board to setting.		Dual Sensors	N/C	N/C	N/C	N/C	N/C	Dual Sensors	Dual Sensors
				Low Critical Wa 10 2 Curren	Low Critical 10 21 Low Warning 0 30 t Reading 27.6 ° C Status Normal Currently Onlin	27,6 °C 30 40 High Cri High Warning High High Critical 40	_		
					Save Ret				

Figure 3-54. Notification Thresholds page.

## 4. Notifications

If you set up a notification, you can define the action to take when the sensor gives a reading beyond your set thresholds. This enables you to determine how you will be notified that a sensor's reading has reached the specified parameters (high warning, critical, etc.) described in Chapter 3.

This tutorial provides you with the information you need to set up a notification.

To get to the starting point of this tutorial:

- Login as administrator.
- Click the "Notifications" tab.

#### 4.1 Adding a Notification

1. Click on the "Begin Notification Wizard" tab as shown in Figure 4-1.

Location: System Location							Current System Time: 06	/01/2000 10:22:0
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
			i i i i i i i i i i i i i i i i i i i	Link S	ensor To Action			
Notification Menu					1. Click Notification	ns tab		
Begin Notification Wizard		Link Sensor To Action	Escalation			5886-3783		
Action		Host Name	Sensor Name		Action on Status	3	Action Name	
Link Sensor To Action			-		-		-	
Options			_					
View Notification Log				Create Edit	Create Escalation Rei	move		
Notification Analyzer								
Help			Import notific	ation from file	Browse	Import Export		
This is an overview of all configur								
Sensor Action Links. From here y create, edit and remove Sensor A	Action							
Links.Select your desired Sensor Link(s) before making a choice.	r Action							
Each line should be descriptive.	2. Clic	ck "Begin Notification	n Wizard"					
Temperature in Store room Is His	gh							
Critical Then E-mail Store Room Manager.								
To disable or enable the notificat	ions							
without having to delete them, in	the Link							
Sensor To Action listing, just unc checkbox to disable them or cher								
checkbox to enable them								
1								

Figure 4-1. Notification Wizard tab.

2. The Notification Wizard page will be displayed as shown in Figure 4-2.

Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
					Create Action			
Notification Men	u	The Notifica	tion Wizard will quide you	etan by etan through the	process of selecting a sensor, creating	a an action and defining	the criteria under	
Begin Notification Wizard			otification will be sent.	step by step through the	process of selecting a sensor, creating	g an action and demning	the chiefia under	
Action								
Add Action			Please	e select an Action Type	SNMP Trap			
Link Sensor To Action			Select not	tification type	Eman SMS	Cancel	Next>	
Options			State of the second second		Relay		Click "Next"	to continu
View Notification Log					FTP Custom Script			
Notification Analyzer					Fax			
Help					Siren Wake Up / Shutdown			
Please select an Action Type					Windows Alert Skype Call/SMS			
pull down box. Later your acti linked to a sensor and status					Dry contact Enable/Disable Sensor To Action			
					Alarm Sound			
					Speech Sound Log			
					Telephone Call			

Figure 4-2. Notification Wizard page.

Next, you'll see how to set up a few different ways of notification step by step.

#### 4.2 SNMP Trap

If you set up a notification via an SNMP trap, when your sensor reaches a certain threshold, it will send a notification to your SNMP server.

This tutorial provides you with the information you need to set up an SNMP trap.

To get to the tutorial's starting point:

- Log in as administrator.
- Click the "Notifications" tab.
- Choose "Notifications Wizard."
- Choose "SNMP Trap."
- 1. After selecting to add an SNMP trap, you will need to fill in the following information shown in Figure 4-3.

Action Nat	ne SNMP Trap 1	Enter name for your
Trap Versi	on	SNMP notification
SNMP Trap send port( default is : 16	2)  162	Enter the IP address
Destination Addre	ss 192.168.0.XXX	of your SNMP trap
Commun	ity public	
Enter community name of trap	Add Trap Destination	
		Cancel Next

Figure 4-3. Add an SNMP trap.

2. Once this information is correct, click the "Add Trap Destination" button. Input another trap or click on "Next." Enter the parameters shown in Figure 4-4.

Sensors	Notification SNMP Trap Action Wiz
Maximum Times to Resenc Resend Intervals (secs	

Figure 4-4. Notification parameters.

These parameters set the maximum number of times to send the trap notification and the time interval between each notification.

3. After clicking "Next," you'll see the screens shown in Figures 4-5 and 4-6.

Link Sensor To Action	Escalation		
Board Board 0A000004 Internal RJ45 Select your r	nodule	Sensor          Temperature Port 1         Motion Detector Port 4         Humidity Port 2         Temperature Port 2         Select your Sensor	Sensor Filter V Humidity Dual Temperature Temperature Motion
		Cancel Next >> Click "	'Next"

Figure 4-5. Parameter Selection, screen #1.

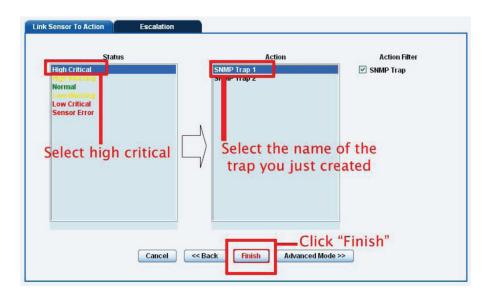


Figure 4-6. Parameter Selection, screen #2.

On these screens, you can select the parameters for when to send the SNMP trap notification. In this example, we selected to bind the SNMP trap to the temperature sensor connected on Port 1. The trap will be sent when the sensor reads a "High Critical" and we bind this to the SNMP trap we just created and named "SNMP Trap 1."

4. Once we have created the parameters for the SNMP trap, we need to make it active. To do this, go back to the "Notifications" tab. (It should look like the screen shown in Figure 4-7.) Click "Create."

			1979 - Tarana (197					
Location: System Location							Current System Time: 06/01	1/2000 10:27:
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				Link Se	ensor To Action			
Notification Menu		ink Sensor To Action	Escalation					
Begin Notification Wizard		Ink Sensor To Action	Escalation					
Action	1 million	Host Name	Sensor Name		Action on Statu	IS	Action Name	
Link Sensor To Action			-					
Options			lick "Create"	Create				
View Notification Log				Create	Create Escalation Re	emove		
Notification Analyzer Help			Import notifica	tion from file	Browse	Import Export		
Help	_		import nounca	don nom me	Diowse	Export Export		
This is an overview of all configured Sensor Action Links. From here you n								
create, edit and remove Sensor Action Links.Select your desired Sensor Action								
Link(s) before making a choice.								
Each line should be descriptive. E.g.	If							
Temperature in Store room Is High Critical Then E-mail Store Room								
Manager.								
To disable or enable the notifications								
without having to delete them, in the L Sensor To Action listing, just uncheck	_ink cthe							
checkbox to disable them or check th checkbox to enable them	e							
checkbox to enable them								



5. Select the sensor and SNMP trap parameters (see Figures 4-8 and 4-9). First, click on the board that the sensor is attached to and then select the sensor and click "Next."

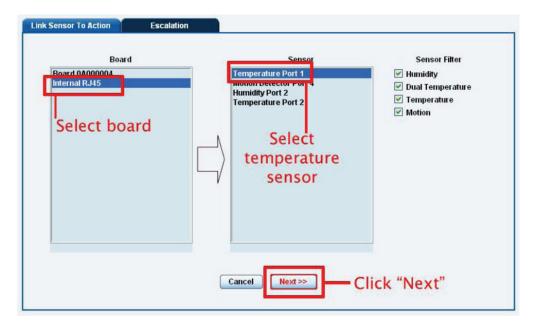


Figure 4-8. Select the sensor.

6. Select the status that you want to issue the notification for, select the action type, then click "Finish."

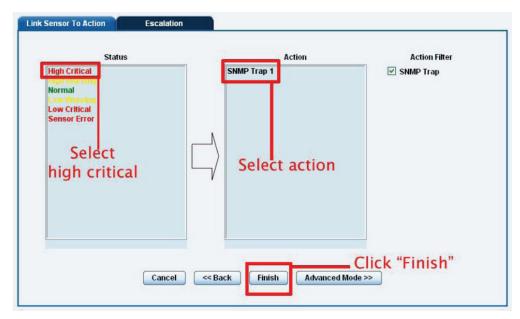


Figure 4-9. Select the SNMP parameters.

7. The SNMP trap has been added to the Notifications page.

Board Name	Sensor Name	Action on Status	Action Name
nternal RJ45	Temperature Port 1	High Critical	SNMP Trap 1
	Create	Create Escalation Remove	

Figure 4-10. SNMP trap added.

NOTE: To remove this trap and make it inactive, highlight the notification and click "Remove."

You can repeat this process to set up multiple SNMP traps for different sensors or for multiple SNMP servers, etc.

#### 4.3 E-mail

This tutorial provides you with the information needed to set up an e-mail notification.

To get to the starting point of this tutorial:

- Log in as administrator.
- Select the "Notifications" tab.
- Click "Notification Wizard."
- 1. If you set up an e-mail notification, Figure 4-11 will appear. Click the "Action Name" field and choose a name for your e-mail. Click the "Mail From" and "Mail To" fields and enter the appropriate information, then click "Next."

Location: System Location						Current System Time: 06/0	1/2000 10:29:24
Summary Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
			Ema	il Action Wizard			
Notification Menu	Choose a mes	sage title for your e	mail Action Name	imail 1			
Begin Notification Wizard	Choose a mes	sage the for your e	Action numeric				
Action			Mail From				
Add Action			Mail To				
Link Sensor To Action			Mail 10		<u>î</u>		
Options					*		
View Notification Log	Enter	email recipients he	re Mail CC		*		
Notification Analyzer					+		
Help			Mail BCC		*		
Please choose a name for your <u>e-mail</u> Action, Descriptive Action names					-		
increase the simplicity of the system.			_				
Complete the Mail To, From and CC							
fields with correctly formatted e-mail addresses. The Mail To and From fields						Cancel Next	
are mandatory.Multiple recipients may be							
entered by separating addresses by a comma (,) or semicolon (;)							
Please select Cancel to leave the edit							
mode and go back to the menu without							
saving.							
1							



2. After clicking "Next," you will get a page where you can input the e-mail name and message. Click the "Customize" button, and the fields will re-write in a format that will allow for an automated e-mail that will display the sensor information. (See Figure 4-12.)

Location: System Location							Current System Time: 06	04/2000 40
Summary Map	Sound Log	Sensors	Notification	Access Control	Settings		Applications	Help
				ail Action Wizard	a tongo			
Notification Menu								
Begin Notification Wizard			Subject	Testing Sensor Port 1 on Testin	g Board is now 80 Unit, s			
and the second			Body	From: System Name(10.1.5.87)				
Action				Time: 10:29:19				
- Add Action				Testing Sensor Port 1 on Testin Unit, status is now Normal	ig Board is now 80			
Link Sensor To Action								
Options								
View Notification Log								
Notification Analyzer					- -			
Help			1					
This is a preview of the message that will be sent to your recipient(s). The sent message will include the details relevant to your sensor.		Click	"Customized"	Customized Attach Graph				
Click Customize to change the format of this message. The items in your message with a dollar sign and parentheses e.g. S[TIME] represent the data to be imported into your message at						Cance	el Back Next	
the time of sending. Please click the								
Macro Description button for a full list.								
Click Enable Picture to attach a Picture with your message. Select to attach either the Current Picture from the Camera or the most recent Picture Stored on the Picture Log. Select which Cameras you would like to use as the source of your picture.								



Location: System Location							Current System Time: 06	01/2000 10:34:15
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				 Emai	il Action Wizard			
Notification M	enu			-				
Begin Notification Wizard					[DESCRIPTION] on \$[BOARD_D	ESC] is now \$[VALUE] \$[		
Action					rom: \$[SYSNAME](\$[IP]) ime: \$[TIME]	*		
- Add Action				\$	[DESCRIPTION] on \$[BOARD_D			
Link Sensor To Action				S	[VALUE] \$[UNIT], status is now	\$[STATUS]		
Options								
View Notification Log								
Notification Analyzer						+		
Help					Destruction Data		1	
This is a preview of the m	ecoco that will			-	Preview Restore Defa	Macro Description	J	
be sent to your recipient(s	).The sent				Attach Graph			
message will include the to your sensor.	details relevant				A DEC 17 DECEMBER OF STREET			
			Click	"Attach Graph" I	f you would like a gr	aph added		
Click Customize to chang this message. The items						C	ancel Back Next	
message with a dollar sig parentheses e.g. S[TIME]								
data to be imported into yo	our message at							
the time of sending. Pleas Macro Description button								
Click Enable Picture to att with your message. Select								
either the Current Picture Camera or the most recer								
Stored on the Picture Log.	Select which							
Cameras you would like to source of your picture.	o use as the							
source or your picture.								

Figure 4-13. Attach graph.

#### 3. Click "Next."

4. Now you need to input your SMTP server address for your e-mail account. (See Figure 4-14.)

SMTP Server		
SMTP Port	25	
SMTP Authentication	🔘 Enabled 💿 Disabled	
SMTP Server Login name		
SMTP Server Password		
Timeout	30 Second(s)	
		Cancel Back Next

Figure 4-14. Input SMTP server address.

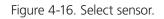
- 5. Once this is entered, click "Next."
- 6. Now, as with the SNMP trap, you can select how many times to attempt to resend the e-mail, and the time elapsed between each attempt.
- 7. Click "Next" after you fill in your parameters. (See Figure 4-15.)

Maximum Times to Resend	0 🗸			
Resend Intervals (secs)	10	10 secs		
				Cancel Back Next

Figure 4-15. Select frequency to resend e-mail attempts.

8. Now link the e-mail you just created to the temperature sensor on Port 1. Select the board the sensor is attached to, then select the sensor and click "Next." (See Figure 4-16.)

Link Sensor To Action Escalation Board Board 04000004 Internal RJ45 Select board	Temperature Port 1 Monorn Detector Port 4 Humidity Port 2 Temperature Port 2 Select temperature	Sensor Filter V Humidity V Dual Temperature V Temperature V Motion
	Click	



9. Select the status you want to issue the alert for and then select the action type. (See Figure 4-17.)

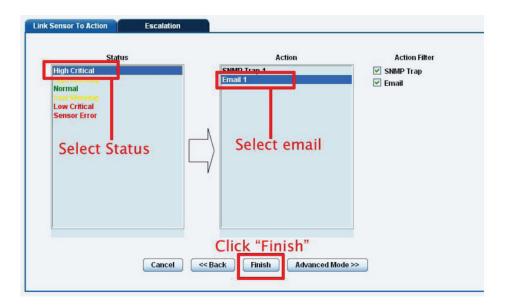
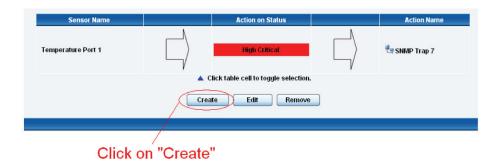


Figure 4-17. Select status and action type.

- 10. Click "Finish." You will now be taken back to screen shown in Figure 4-18.
- 11. Click on "Create."





12. Create the notification link as before. Then click "Next."

Select board	Temperature Port 1 Motion Detector Port 4 Humidity Port 2 Temperature Port 2 Select temperature	Sensor Filter V Humidity Dual Temperature Temperature V Motion
--------------	--	--

Figure 4-19. Create notification tab: select board, select termperature.

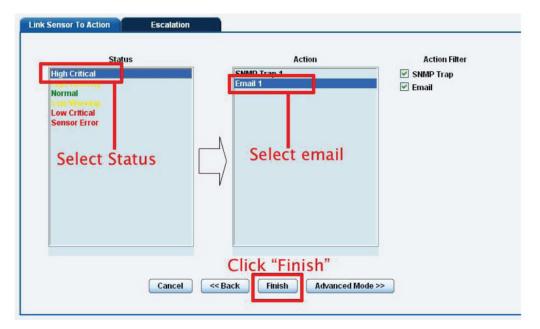


Figure 4-20. Create notification tab: select status, select e-mail.

14. You will now be back at the main notification page. You should now see listed our two notifications, the SNMP trap and the e-mail. (See Figure 4-20.)

As you can see from this page, an SNMP trap is set up to give us notification of a "High Critical," and an e-mail notification that will activate on a "High Warning."

 Sensor Name
 Action on Status
 Action Name

 Temperature Port 1
 Image: Action Name
 Image: Action Name

 Temperature Port 1
 Image: Action Name
 Image: Action Name

 Image: Action Name
 Image: Action Name
 Image: Action Name

 Image: Action Name
 Image: Action Name
 Image: Action Name

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 Image: Action Name
 Image: Action Name
 Image: Action Name

Figure 4-21. SNMP Trap and E-mail Notificiations screen.

#### 4.4 SMS Notification

Set up a notification so that you will be sent an SMS message. This message can be sent via a GSM/GPRS mobile phone connected via a Bluetooth connection or the USB port.

This tutorial provides you with the information you need to set up a SMS notification.

To get to the starting point of this tutorial:

- Log in as administrator.
- Select the "Notifications" tab.
- Click "Notification Wizard."
- 1. From the list of notification types, select SMS and click "Next." You will then be presented with the screen shown in Figure 4-22. Select the "Action Name" field and enter a notification name. Then select the "Phone Number" field and enter the phone number you want to send the notification to. Click "Next."
- 2. You can now either add multiple numbers, delete phone numbers, "Cancel" this action, or click "Next." In this case, we will click "Next." (See Figure 4-23.)

	Current System Time	: 31///09 17:32
Sensors Notification Settings	Applications	Help
SMS Action Wizard		
Action Name SMS 1	- Input notificat	tion
Phone Number	name	2
Add Phone Number input a phone number	Cancel	ext

Figure 4-22. SMS Action Wizard, screen #1.

sors No	tification	Settings	Applications	Help
SMS	Action Wizar	d		
Action Name	SMS 1			
Pho	ne Number List			
00	639052965214			
Phone Number	006390529652	14		Click
	Add Phone	Number Dele	ete Phone Number 🔒	Click 'Next"
			Cancel	Next

Figure 4-23. SMTP Action Wizard, screen #2.

3. Now we will set up the message that will be sent to the phone. You will see the screen shown in Figure 4-24. Click the "Customized" button to add a macro to your notification.

Sensors	Notification	Settings	Applications	Help
	SMS Action Wiza	ırd		
SMS Met		or Port 1 is now 80, 10.1.5.206	status is now	
Click to c	ustomize		Cancel Back I	lext



NOTE: A macro is a script that returns specific data collected by the unit. In our example, the macro will tell the notification to contain the "description" (sensor name), the value (current sensor reading), and the status (high/low warning, etc.). These macros are common to all sensor notifications.

4. You will now see that the SMS message has changed its format to include the Macro script. (See Figure 4-25.) Click "Next."

			current system min	C. 3 11103 11
iors 🚺 🖡	lotification	Settings	Applications	Help
SM	IS Action Wizard	1		
Fro	tur)			
FIG	m  \$[IP]			
Text Messag	IN STATUS]	] is now \$[VALUE]	l, status is now ☑	
	Preview	Restore Defaul	t Macro Descriptio	n
Contraction and the second second	e includin o script	ng 🗌	Cancel Back	Next
			Click	"Nex

Figure 4-25. Macro script message.

- 5. Next, we will set up the type of connection. This will depend on the type of modem you are connecting. For the purpose of this tutorial, we will assume you are connecting a GSM/GPRS enabled modem to the serial port. Select COM1 from the list. (See Figure 4-26.)
- 6. Choose the port that the modem is connected to.

Sensors	Notification	Settings	Applications	He
	SMS Action Wiz	ard		
Mobile Phone Mobile Phone Port S Delay Ti Select for Initialization S Initialization S	peed Auto imes 0 tring Other(Custo	om Setup) 💉		
Chasse the			ancel Back	Next

# Choose the connection type you wish to use

Figure 4-26. Choose the Connection Type You Wish to Use screen.

- 7. You will now be able to select the number of times you want the SMS to be resent and the interval between sending them. (See Figure 4-27.)
- 8. Select the number of times you want to resend this notification and the interval (in seconds). Click "Next."

			Current System In	ne: 31///09 1
Sensors	Notification	Settings	Applications	Heip
	SMS Action Wiza	ırd		
Maximum Times to Resend Interva	Contraction of the local division of the loc			Click Next"
	mber of tim and interv		Cancel Back	Next

Figure 4-27. Select number of times to resend and intervals.

- 9. Select the sensor that you want to bind this notification to.
- 10. Choose the board and sensor, then click "Next."

Board Board 0A000004 Internal RJ45	Temperature Port 1         Motion Detector Port 4         Humidity Port 2         Temperature Port 2	Sensor Filter
	Cancel	

Figure 4-28. Choose board and sensor.

Status High Critical High Wanthy Normal Low Warning	Action SNMP Trap 1 Email 1 SMS 1	Action Filter           Image: Signal state           Image: Signal state
Low Critical Sensor Error		

Figure 4-29. Link sensor to action tab.

- 11. This time we will use this notification for a low warning. Then select the notification name we assigned, in this case we chose "SMS 1." Click "Finish" to finalize this. (See Figure 4-29.)
- 12. Now we will add the SMS notification to our active list. This is the same process as for the others—simply click on "Create" and then select the appropriate parameters. Follow Steps A–F below and on the next page.
  - A. Select the board the sensor is connected to.
  - B. Select the sensor.
  - C. Click "Next."

Link Sensor To Action Escalation Board Recard 0A000004 Internal RJ45 1	Sensor Temperature Port 1 Mouton Detector Port 4 Humidity Port 2 Temperature Port 2 2	Sensor Filter V Humidity Dual Temperature Temperature V Motion
	Cancel Next >> 3	

Figure 4-30. Steps A–C.

- D. Select the status you want to issue the alert for.
- E. Select the action type.
- F. Click "Finish."

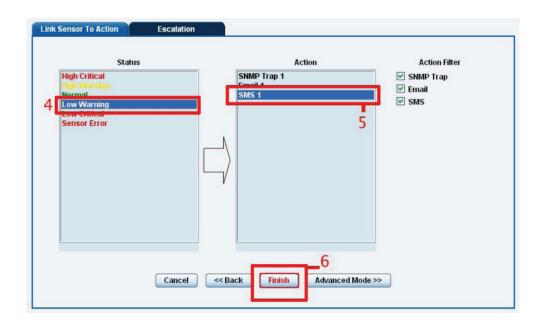


Figure 4-31. Steps D–F.

13. You will now be back at the main notification page (Figure 4-32). The page should display three types of notifications: the SNMP trap, e-mail, and SMS.

Sensor Name	Action on Status	Action Name
Temperature Port 1		∬ V trap 7
Temperature Port 1	High Warning	∬ → Tutorial E-mail
Temperature Port 1	Low Warning	♪ → ■ Tutorial SMS notification
	Click table cell to toggle selection.	
	Create Edit Remove	

Figure 4-32. Main notification page.

For the purposes of this tutorial, we will not cover the setup of every type of notification. However, with this information you should be able to follow the procedure for the other types of notifications easily, as they all follow a similar format. If you have questions, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

# 5. Mapping

The mapping feature allows instant visual feedback about a sensor's position and status. It is a useful monitoring tool for a setup with several sensors in different positions.

This tutorial provides you with the information needed to set up the mapping feature.

To get to the starting point of this tutorial:

- Log in as administrator.
- Click the "Map" tab.

#### 5.1 Adding a Map

1. First, we need to add a picture file to be used as the map. This can be a blueprint of your office, a 3D picture of your office/site being monitored, or a photo of the wiring closet you are monitoring.

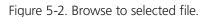
NOTE: The maximum map file size is 512 KB.

	lick the Map tab							
Location: System Location	nes the may tak						Current System Time: 06/01	1/2000 10:37
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				Sensor I	Map [ Untitled 01 ]			
Map List								
No Map Uploade	d							
Online Sensors	1							
Module 0A000764								
Main Module								
Options		Commence of the second s						
Add New Map	Click add	I new map						
Unlock This Mag								
Change Picture of Thi				Please u	pload map file.			
Rename This Ma	ip							
Reset This Map	2							
Remove This Ma	ip							
Help	and the second							
Place links on map: Press the I then drag the Sensor or Sub Ma								
map.								
More information: Left click on a display real time sensor data.	Sensor icons to							
Display a map containing the S	Sensor: Press			<	> ^ V			
the sensor description on the le	eft column.				100.00 %			
				Zoom	In Zoom Out	FullSc	creen Mode	
				Refresh Map Sensors	Interval (sec.) 5 Apply			

Figure 5-1. Click on the "Map" tab.

2. Browse to the file on your hard drive that you want to use.

	Map Wizard
Please select a Map picture to upload. JPEG or GIF format (Maximum 512 kB).	
Upload new Map	Browse
lick "Browse" to navigate t	o your selected file Cancel Next



3. In this tutorial, we are going to use a 3D map of a town center we are monitoring.



Figure 5-3. Enter map name.

4. Choose to have the map as a top-level map.

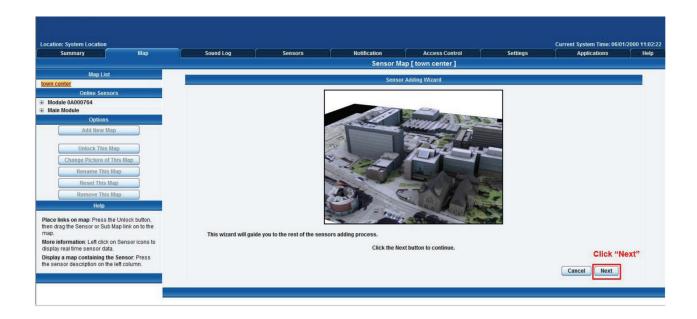
	Map Wizard	
This Map can be assi Please assign parent	jned as a sub-Map or as a top level map. map for this map.	
	Select Parent Map Set as Top Level 💌	
	Set map as top level	Back Next

- Figure 5-4. Enter map level.
- 5. You will now have the option to finish or to add sensors to your map. For this tutorial, click "Next."

Map Wizard				
Map added successfully. Click Finish to close this wizard or click Next to continue to Sensor Adding Wizard.	Finish Next			



6. You will now be taken to the map page where it will display your map. To add sensors, click "Next."



- Figure 5-6. Sensor map.
- 7. After clicking "Next," click the "Unlock" button. This enables you to add sensors to the map.

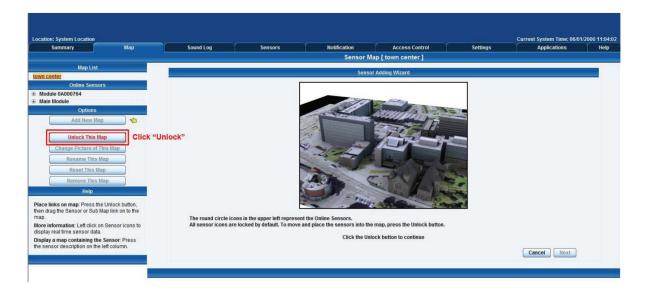


Figure 5-7. Add sensors to map.

8. You can now drag sensor icons and position them on the map.



Figure 5-8. Position sensor icons on map.

9. After you have positioned the sensors in the correct location of your map, click "Lock."

Location: System Location							Current System Time: 06/01	/2000 13:02:20
Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				Sensor	Map [ town center ]			
Map List		11-		Son	sor Adding Wizard			
town center				201				-
Online Sears Module AboO764 Module DADO764 Dual Temperature Port 8 Dual Temperature Port 8 Quices Add New Mi Lock This M Change Picture of Rename This Reset This 1 Remove This Help	ap ap This Map tap	re when sensors have	been					
Place links on map: Press th	ne Unlock button.	Sensor Icon is now p	accu, to provent the acciden					
then drag the Sensor or Sub map. More information: Left click display real time sensor dat Display a map containing th the sensor description on the	Map link on to the on Sensor icons to a. e Sensor: Press			Press the	Lock button to continue		Cancel Next	

Figure 5-9. Click "Lock."

10. Finally you click on the "Finish" button to save your changes.

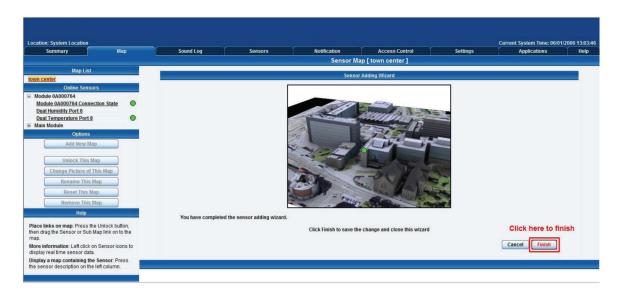


Figure 5-10. Save changes.

## 5.2 Monitoring via the Map Interface

Now we are going to look at how to monitor the sensor status and use the map interface.

1. To see further information about a sensor, you can click on its icon. First, you must click on the "Unlock Icons" button.



Figure 5-11. Using the map interface.

If you connect other sensors, these too can be dragged and positioned on the map.

# 6. Filters

#### **6.1 Sensor Filters**

1. The ServSensor comes equipped with the option to filter your sensor information that is displayed within the summary page. To enter the filter menu, select "Sensor Filters" from the drop-down tab on the left side of the page.

and the second	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
Summary S	etting			Sensor Ir	nformation		and the second second	
Layout Set	tting	Host Name	<b>)</b>	Туре 🔺 🔻	Sensor Name 🔺 🔻		Reading 🔺 🔻	Status 🔺 🔻
Sensor Fil	ters	Main Module		Module	Main Module			Normal
		Module 0A000764		Module	Module 0A000764			Normal
Sort by : Host Na	ame 💌			Sananre	status will be reloaded in 08 secs			
Advanced	Filter			11 TO 10 CONTRACTOR 1	og ( 33 messages )			
Display Status Display Sensor Type	1	1 2000/01/06 10:43:04 Temperature Port 8 is 27.5 °C, status is Normal						
Display Host Name	2	2000/01/06 10:38:16		is 30.0 °C, status is High Warning				
Display Host Name	3	2000/01/06 10:11:59		Port 8 on Module 0A000764 is 26.8				
Search :	4	2000/01/06 10:11:59 Dual Humidity Port 8 on Module 0A000764 is 56 %, status is Normal 2000/01/06 10:11:55 Module 0A000764 is enabled						
	5	2000/01/06 10:11:55		s enabled Connection State on Module 0A000	764 status is Namel			
Apply Filter	Clear Filter 7	2000/01/06 10:08:23	Module 0A000764 is		1764 status is normal			
	8	2000/01/06 05:55:01		is 27.5 °C, status is Normal				
Expand All Modules	Collapse All Modules	2000/01/05 16:18:52		is 30.0 °C, status is High Warning				
	10			is 27.5 °C, status is Normal				
		2000/01/05 10.51.42	Temperature Port o		n Log will be reloaded in 09 secs			
eload Sensor Interval : 10		ck here to view fi	Iter options	0,000				
Syslog Filt								

Figure 6-1. Select sensor filters.

2. Once you click the tab, you will be able to select your filter results by altering various fields of information contained within the sensor filter window.

Sensor	Filters	
Sort by Host	Name 🔽	Sorting options are found here
Advance	d Filter	
<ul> <li></li></ul>		Select various options to customize your viewing window data
Apply Filter	Clear Filter	Click here to save your changes
Reload Sensor Interval :	Collapse All Modules	

Figure 6-2. Add information fields.

3. You can alter the page reload interval by using these options.



Figure 6-3. Alter the page reload interval.

4. Once you have selected your preferred filter options, your new settings will be displayed in the "Sensor Information" window found on the Summary page.

Location: System Loca	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Current System Ti Applications		Help
Sun	mary Setting			Sensor In	formation				$\mathbf{X}$
La	yout Setting	Host Nan	ne 🔺	Туре 🔺 🔻	Sensor Name 🔺 🔻	Rea	ding 🔺 🔻	Status 🔺 🔻	
Se	nsor Filters	Main Module		Module	Main Module	a series and the		Normal	
	and the second	Module 0A00076	54	Module	Module 0A000764			Normal	
Sort by :	Host Name 💌			Sensors	status will be reloaded in 10 secs				
Ad	vanced Filter			System Lo	g ( 33 messages )				×
Display Status		1 2000/01/06 10:43:0	4 Temperature Port 8	is 27.5 °C, status is Normal					
E Display Sensor T	pe	2 2000/01/06 10:38:1	0:38:16 Temperature Port 8 is 30.0 °C, status is High Warning			Voin ale	and and discount	Investigation	Ā
Display Host Nan	1e	3 2000/01/06 10:11:5	59 Dual Temperature F	Port 8 on Module 0A000764 is 26.8	°C, status is Normal	rour cha	inges are disp	hayed here	• A
a		4 2000/01/06 10:11:5	59 Dual Humidity Port	8 on Module 0A000764 is 56 %, sta	tus is Normal				
Search :		5 2000/01/06 10:11:5	55 Module 0A000764 is	s enabled					
<u></u>		6 2000/01/06 10:08:2	23 Module 0A000764 0	Connection State on Module 0A000	764 status is Normal				
Apply Filter	Clear Filter	7 2000/01/06 10:03:2	29 Module 0A000764 is	s disabled					
		8 2000/01/06 05:55:0	1 Temperature Port 8	is 27.5 °C, status is Normal					7
Expand All Module	s Collapse All Modules	9 2000/01/05 16:18:5	2 Temperature Port 8	is 30.0 °C, status is High Warning					V
		10 2000/01/05 10:31:4	12 Temperature Port 8	is 27.5 °C, status is Normal					<u>×</u>
Reload Sensor Interv	al: 10 secs. Apply			System	Log will be reloaded in 09 secs				
S	islog Filters								

Figure 6-4. Summary page.

# 6.2 Syslog Filters

Syslog filters enable you to customize your syslog window. To begin. select the "Syslog Filters" tab found on the summary page.

Summary	Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Hel	
Sum	mary Setting			Sensor In	formation				
Layout Setting		Host Name 🔺		Type ▲▼	Sensor Name 🔺 🔻	Re	ading 🔺 🔻	Status 🔺 🔻	
Ser	isor Filters	🗉 Main Modu	le	Module	Main Module			Normal	
Sys	log Filters	Module 0A	000764	Module	Module 0A000764		-	Normal	
		Syslog filter	settings are found h	IEFE Sensors	status will be reloaded in 04 secs				
Sort by : Date				System Lo	g ( 33 messages )				
Number of displa	y items per page 10 💌	1 2000/01/06 1	0:43:04 Temperature Port	8 is 27.5 °C, status is Normal					
Adv	anced Filter	2 2000/01/06 10:38:16 Temperature Port 8 is 30.0 °C, status is High Warning							
Display Log Level		3 2000/01/06 10:11:59 Dual Temperature Port 8 on Module 0A000764 is 26.8 °C, status is Normal							
Display Log Type		4 2000/01/06 1	0:11:59 Dual Humidity Port	8 on Module 0A000764 is 56 %, sta	tus is Normal				
Display Sensor Typ	e	5 2000/01/06 1	5 2000/01/06 10:11:55 Module 0A000764 is enabled						
Display Sensor Sta	tus	6 2000/01/06 1	0:08:23 Module 0A000764	Connection State on Module 0A000	764 status is Normal				
		7 2000/01/06 1	0:03:29 Module 0A000764	is disabled					
pply Filter Cl	ear Filter Clear Syslog	8 2000/01/06 0	5:55:01 Temperature Port	8 is 27.5 °C, status is Normal					
	and the second se	9 2000/01/05 1	6:18:52 Temperature Port	8 is 30.0 °C, status is High Warning					
		10 2000/01/051		8 is 27.5 °C, status is Normal					
load Syslog Interval	10 secs. Apply			System	Log will be reloaded in 04 secs				

Figure 6-5. Syslog Filters tab.

Once you click the tab, you will be able to select your filter results by altering various fields of information contained within the syslog filter window.

Syslog Filters	
Sort by : Date Number of display items per page 10 Advanced Filter	_By clicking on the "+"
<ul> <li>Display Log Level</li> <li>Display Log Type</li> <li>Display Notification</li> <li>Display Sensor Type</li> <li>Display Sensor Status</li> </ul>	sign, a drop down list of options will become available.
Apply Filter     Clear Filter     Clear Sys Log       Reload Syslog Interval :     10     secs.     Apply	

Figure 6-6. Drop-down menu.

By checking and unchecking various boxes within the Syslog filter window, you can customize your displayed results contained within the syslog filter.

Sensor Filters	
Syslog Filters	
Sort by : Date v Number of display items per page 10 v	<ul> <li>Sorting options are found in the drop down menu</li> </ul>
Advanced Filter	
Disnlay Log Level Varning Varning Votices normation Disp ay Log Type vstem Log iensor Log Disp ay Notification	<ul> <li>Various check boxes can be ticked and unticked to customize your filter window</li> </ul>
<ul> <li>Disp ay Sensor Type</li> <li>Iemperature</li> <li>Vater</li> <li>Humidity</li> <li>Dry contact Array</li> <li>Dual Temperature</li> <li>Iotion</li> <li>Disp ay Sensor Status</li> <li>Iormal</li> <li>High Warning</li> <li>High Critical</li> <li>.ow Warning</li> <li>Jow Warning</li> </ul>	
Bensor Error     Apply Filter     Clear Filter     Clear Sys Log     Reload Syslog Interval : 10     secs.     Apply	<ul> <li>Click here to save your selections</li> </ul>

Figure 6-7. Customize syslog filter results display.

You can alter your reload interval by using the options shown below.





Once you have selected your preferred filter options, your new settings will be displayed in the "System log Information" window found on the Summary page.

ation: System Location Summary Map		Sound Log	Sensors	Notification	Access Control	Settings	Applicatio	Time: 06/01/2000 1 ons H	lelp
Summary Setting				Sensor	Information				
Layout Setting		Host Name 4	Q. 11	Type 🔺 🔻	Sensor Name 🔺 🔻		Reading 🔺 🔻	Status 🔺 🔻	
Sensor Filters		Main Module		Module	Main Module		-	Normal	
Syslog Filters		Module 0A000764		Module	Module 0A000764			Normal	
				Senso	rs status will be reloaded in 04 secs				
Sort by : Date				System I	Log ( 33 messages )				
Number of display items per page 10 💌	1	2000/01/06 10:43:04	Temperature Port 8	is 27.5 °C, status is Normal					
Advanced Filter	2	2000/01/06 10:38:16	2000/01/06 10:38:16 Temperature Port 8 is 30.0 °C, status is High Warning Syslog filter settings are displayed						
Display Log Level	3	2000/01/06 10:11:59	<b>Dual Temperature P</b>	ort 8 on Module 0A000764 is 26	8 °C, status is Normal		er settings are un	spiayeu	
Display Log Type	4	2000/01/06 10:11:59	<b>Dual Humidity Port 8</b>	on Module 0A000764 is 56 %, s	tatus is Normal	here			
Display Sensor Type	5	2000/01/06 10:11:55	Module 0A000764 is	enabled					
Display Sensor Status	6	2000/01/06 10:08:23	Module 0A000764 C	onnection State on Module 0A00	00764 status is Normal				
	7	2000/01/06 10:03:29	Module 0A000764 is	disabled					
Apply Filter Clear Filter Clear Syslo	8	2000/01/06 05:55:01	<b>Temperature Port 8</b>	is 27.5 °C, status is Normal					
	9	2000/01/05 16:18:52	Temperature Port 8	is 30.0 °C, status is High Warnin	10				
	_ 10	2000/01/05 10:31:42	Temperature Dect 0	is 27.5 °C, status is Normal	16 C				

Figure 6-9. Saved syslog filters display.

## 7. Making the ServSensor Visible on the Internet

The setup we have just created will enable you to access your ServSensor V4E Lite on a local area network (LAN), monitor via the Web based interface, or with SNMP traps.

But, what if you want to be able to remotely access your unit from anywhere in the world? This is possible; however, the following steps are only a guide. Your exact setup and configuration will often depend on your network equipment. You are going to need access to your router, if you are using one, and know whether your IP address is static or dynamic.

1. Suppose your ServSensor is connected to a router on your network, and the following IP addresses are assigned:

Your unit's IP address is the default 192.168.0.100.

Your computer's IP address is 192.168.0.200

Your router's IP address is 192.168.0.300

2. To find out your router's external IP address, go to www.whatsmyip.com

Suppose your router's external IP address is 278.67.04.09

3. You now need to set up port forwarding on your router. This varies depending on your router's model. Generally, you need to point your browser to your router"s IP address (in this case 192.168.0.300). This will then enable you to log into your router's administration interface. You can find how to go about doing this for your router on www.portforward.com

For an example of how to do this for a commonly used router, follow this link :-http://www.portforward.com/english/routers/port\_forwarding/Linksys/WRT54G/HTTP.htm

You need to set up your router's HTTP forwarding to Port 80. This will then mean when you access your router using the external IP address, you will be forwarded to your unit's internal IP address.

- 4. To test this, open your Web browser, and go to your external IP address (in our example 278.67.04.09). If you're using a dynamic IP address, check it again before doing this because it may have changed since the start of this tutorial.
- 5. To make this easier, you could use a Dynamic Name Server (DNS). This means that you no longer need to remember IP addresses or use www.whatsmyip.com to find out your IP address. You will instead register a domain name (for example mysensorProbe2.homeip.com). This will then automatically point to your router's external IP address (e.g. 278.67.04.09). This will require you to register the domain name and open an account with a DNS service provider. We recommend www.dyndns.com because it allows you to register up to five free domain names.
- 6. If you have set up everything correctly, you will now be able to access your unit from anywhere in the world simply by pointing your Web browser to your DNS address.

## 8. Frequently Asked Questions (FAQs)

Question: I cannot see the temperature sensor displayed on summary page.

Answer: After logging in for the first time with the temperature sensor connected, you may need to do the following.

Summary Setting	
Layout Setting	
Camera Setting	
Sensor Filters	
Syslog Filters	
Sort by : Date  Vumber of display items per page 10  Vumber of display items per page	
Advanced Filter	
Display Log Level	
Critical	
✓ Warning	
Votices	
Information	
Display Log Type	
System Log	
Sensor Log	
Display Notification	
🖃 Display Sensor Type	Click on "Display sensor type" and check the box
✓ Temperature	marked "Temperature"
✓ Water	
Humidity	
Dry contact Array	
Dual Temperature	
Motion	
Display Sensor Status	Internet Providence and an and the
Apply Filter Clear Filter Clear Sys Log	Then click "Apply Filter"
Reload Syslog Interval : 10 secs. Apply	

Figure 8-1. Select sensor to display.

Next, click on "Apply Filter." The temperature sensor should then be displayed in the list of connected sensors.

Question: I cannot access my unit's Web interface.

If you're having issues with network connectivity, first make sure that the link100 LED is lit on the front display of the unit. If this is not lit, then no network connection is present.

#### Answer:

- 1. If connected directly to a PC, make sure you're using a good quality crossover cable.
- 2. Make sure you're using a standard CAT5 Ethernet cable to connect to your network.

Question: What do my LED lights mean?

Answer: The following diagrams show what the various LED displays mean.

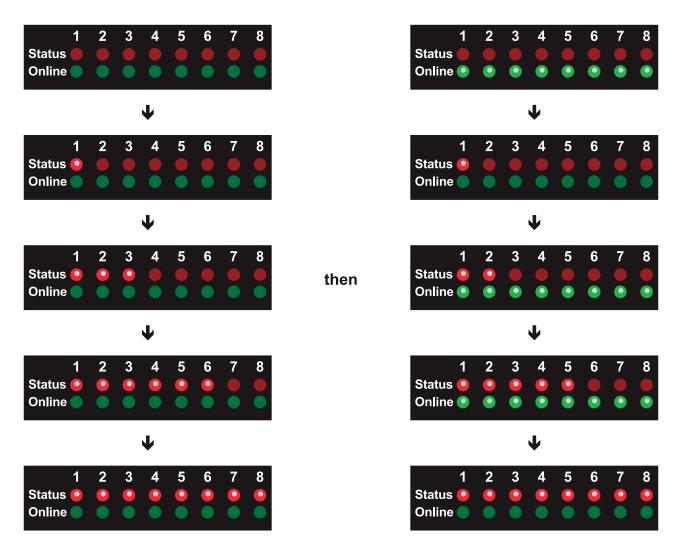


Figure 8-2. LED patterns in Normal mode.

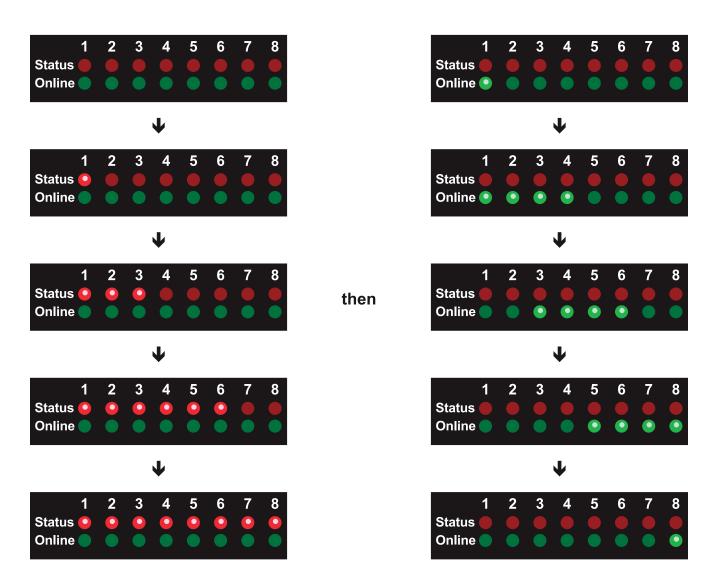
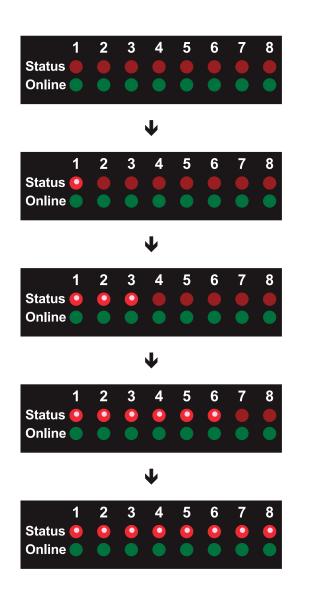


Figure 8-3. LED patterns in Safe mode.



 1
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 7
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 Status
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Figure 8-4. LED patterns in Recovery mode.

then

LEDs run clockwise after the power is connected.

From left to right, each LED indicates:

1st LED: U-Boot init

2nd LED: Kernel loaded with good CRC

3rd LED: Board init

4th LED: Serial port

5th LED: Ethernet

6th LED: NOR Flash

7th LED: NAND Flash

8th LED: Root file-system mounted. Starting initialization process

After the root file-system is mounted, all green LEDs will be flashing, and red LEDs light increasingly from left to right. The onboard Web server can be accessed during this time and shows a splash screen with boot details. After the boot process is finished, the LEDs show the status of the online sensors.

Question: I forgot my unit's IP address.

Answer: If you forget the IP address of your unit, you can simply press the reset button on the back of the unit. This will then announce the IP address through the unit's internal speaker.

Question: I forgot the password for my unit.

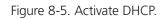
**Answer:** Hold down the reset button for seven seconds. This will turn off the use password feature for the Web-based interface. This will remain turned off until you hold the button down for a further seven seconds, or the unit announces "Now turning off password checking."

NOTE: This will turn off the password checking for accessing the Web interface only; you still have to enter the password when you access the system via Telnet.

Question: Can I use DHCP to assign my unit's IP address?

Answer: Yes, you can use DHCP to assign the IP address. The unit ships with this disabled. To turn it on, you need to log into the Web interface and navigate to the Ethernet settings via the "Security" tab, "Ethernet Network," and then click on the "Yes" button for "Use DHCP."

Summary	Мар	Sound Log	Sensors	Notification	Access Co	ntrol Settir	Time: 07/01/2000 12:50:38 tions Help
Summary	map	Sound Log	36113013	a second to second s	Ethernet Network	Junio Jenni	ions neip
Setup				Default Interface	Use this interface as	default gateway	
General		Click ye	es to activate D				
Connectivity				IP Address	a manyar series		
Ethernet Network				Subnet Mask		_	
Wifi Network				Gateway IP Address	1.11.11	_	
Modbus				Domain Name Server	1.000000000000		
SNMP					00-0B-DC-00-5A-5C		
SNMPTraps				Ethernet Media Mode	100baseTx-FD, negotiate	ed, link ok	
Bluetooth					Save Reset		
Dial-In Modem							
Dial-Out Modem							
OpenVPN Client							
Serial to Network Proxy							
Server Integration							
System Administrator							
Help	1.1						
	ettings to be						



NOTE: If the unit has a static IP address assigned, it will no longer send out DHCP requests. If you later want to turn DHCP back on, you can do that using the Web-based interface.

Question: How do I set up my routing table?

Answer: To set up the routing table, open a DOS window (start, run type command press enter) and at the command prompt, then enter: >route add 192.168.0.100.10.1.1.20

Where 10.1.1.20 is the IP address of the Ethernet interface on the PC that the unit is plugged into with the crossover cable.

Now ping\* 192.168.0.100 to see if the connection was successful.

Question: How can I change my administrator password?

Answer: If you want to make your unit more secure and change the administrator password from the default (public) to your own choice, follow these steps:

1. Log into your unit using the default password.

2. Click the "Settings" tab.

Summary	Мар	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				User & G	roup Management			
Setup				_		1. Click "Setting	s"	
General		Users	Groups				5.1	
Connectivity		User Name 🔺 🔻	Group Name ▲▼		Description	Login se	sion timeout (minutes)	
Server Integration		Admin *	Administrator	BI	Built-in account for administrator		60	
System Administrator		User*	User		Built-in account for user		60	
Password Checking		BobSmith	System Guest		Guest		60	
User & Group Management		* Cannot remove.						
System Maintenance	<b>7</b>							
Services and Security				Add	emove Properties			
A DECEMBER OF								
System Log	2. Select this	ontion						
Heartbeat Messages	2. Delect this	option						
Help								
his page allows enabling, cre	ation and							
anging of the User and Adm	in password.							



3. Change the password.

Summary	Map	Sound Log	Sensors	Notification	Access Control	Settings	Applications	Help
				User & G	roup Management			
Setup		-						
General		Users	Groups					
Connectivity		User Setup						
Server Integration			ame, password, description a	ind then select the member	of the group.			
System Administrator								
Password Checking				l	Iser Details			
User & Group Manageme	ent		User Name	Admin	_		Change Password	
System Maintenance	200		Password		_		Change Password	
Services and Security		Confirm Password						
System Log			Description		inistrator			
Heartbeat Messages		Lo	in session timeout (minutes)	60				
Help	1		Member of Group	Administrator 👻 Go t	o Group Setup			
This page allows enabling, cr								
hanging of the User and Adm	nin password.			Cance	Finish 2. C	lick here		

Figure 8-7. Change user and/or admin passwords.

Question: What function do the different types of notifications provide?

**Answer:** The notifications are used to notify you when a sensor reading has hit a certain preset "critical" threshold. There are many ways you can be notified. They are as follows:

SNMP Trap: This form of notification sends out a signal to your SNMP server.

E-Mail: This sends a notification via e-mail.

SMS: This sends an SMS message to your mobile phone.

**MMS:** This will send you a multimedia message to your mobile phone. This can include an image captured from one of the sensor probe's cameras.

**Relay:** The relay is used as a switch, for example, it could switch on an air-conditioning unit if the temperature reading of a temperature sensor reaches a certain threshold.

Alarm sound: This notification will sound an alarm.

**Speech:** Creates a text-to-speech notification.

Telephone call: Will call you and play a prerecorded message or a text-to-speech message.

Custom script: Allows you to load a custom script that runs on a sensor reading a preset parameter.

Fax: Will send a fax to you with a notification message.

Sound log: Creates a log of sound captured with the internal/external microphone.

Siren and strobe: Will activate a siren and strobe light.

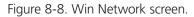
Wake up/shut down: This will send a signal to wake up or shut down a server.

If you require any assistance in setting these up, contact Black Box Technical Support at info@blackbox.com.

Question: Can I connect my unit via Wi-Fi?

Answer: Yes, you can connect the unit via Wi-Fi. Simply plug a USB dongle into the USB port on the rear of the unit. You then need to configure your connection type and encryption key, etc. Do this from the Web-based interface in the "Settings" tab and the connectivity option.

	Wifi Network
Wireless Adapter	⊙ On ○ Off
Default Interface	🔲 Use this interface as default gateway
Use DHCP	⊖Yes ⊙No
IP Address	192.168.0.10
Subnet Mask	255.255.255.0
Gateway IP Address	10.1.1.205
Domain Name Server	10.1.1.2
Wireless Mode	⊙ Infrastructure (Access point)
	🔿 Ad-hoc ch 🚺 🔛
Wireless SSID	×
Encryption Mode	⊙ Disabled ○ 64bit WEP
Link Status	Not connected
	0%
Signal Strength	
	Save Reset



Question: What is the Heartbeat message?

Answer: This setting is to have the ServSensor notify you that it is still running. You can be notified by either traps or by e-mail:

Alive Trap settings: Send Keep Alive Traps (Default Off): Select on if you want the system to send Alive Traps.

Destination: Enter the IP address of the server to send traps to.

Community: SNMP community string.

Resend Interval (mins): The period of time between each keep-alive trap. Values range from 1 to 65535 minutes.

Question: What is the network sniffer?

Answer: The network sniffer application can be used to capture network packets running to and from the securityProbe, and all the network traffic. You can then import the captured file into TCP dump for details of these network packets. The network trace will help in debugging any network problems; for example, if e-mail cannot be sent.

Question: Can I use the camera for a videoconferencing call?

**Answer:** Yes, it is possible to use the camera and the integrated microphone to make a videoconferencing call. You need the software called "OpenPhone" running on your computer. This is included on the CD-ROM that came with your unit. (Look for OpenPhone.exe). Next follow these steps:

- 1. Initiate connection from OpenPhone (PC) to ServSensor.
  - a. Open the program by double clicking "openphone.exe"
  - b. Click the "Make Call" button, enter the IP address of the sensorProbe8Linux/cameraProbe8 to initiate a call in the "Address" field. Then, click "OK."
  - c. The unit will automatically respond to a call and establish the connection. You will then see the video and hear sound from the unit.
- 2. Initiate connection from a ServSensor to OpenPhone (PC).
  - a. Open the program by double clicking "openphone.exe"
  - b. On the Web interface, click on the "Applications" tab, and click on "Video Conferencing."
  - c. Select the "Call to" option and enter the IP address of the PC running OpenPhone. Click "Save" to discover your computers IP address in the command prompt, type "ipconfig."
  - d. On the OpenPhone application, click "Answer" to accept the call.
- 3. Connection between two sensorProbe8Linux/cameraProbe8 (only voice conference).
  - a. On the Web interface of the calling sensorProbe8Linux/cameraProbe8, click on the "Applications" tab, and click "Video Conferencing."
  - b. On the right pane, select the "Call to" field and enter the IP address of the receiving sensorProbe8Linux/cameraProbe8 into this field. Click "Save."
  - c. The connection should automatically establish.

You can end the videoconference call by doing the following:

- 1. End the call on OpenPhone (PC): To end call, click the "Hang Up" button on the OpenPhone. This method can be used to end the call between the system and OpenPhone.
- 2. End the call on the unit: From the Web interface, click on the "Applications" tab and click on "Video Conferencing." On the right pane, select "End call and wait for a new incoming call" option. Then, click "Save."

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